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EDITORIAL.

A NEW GUIDING FORCE.

Those among us who are pessimistic as to the future of the art of conversation should not be bowed down any longer, for out of Germany has newly come to us a brochure entitled "Medical Eloquence" (Aeztliche Beredsamkeit)* by Dr. med. Henry Hughes, which is the exhaustless cruse we have been keenly awaiting to prevent verbal awkwardnesses in circumstances that call for diplomacy and astuteness. Most physicians who think at all have, at one time or another, felt that in this age "of loud disputes but weak convictions" some one moved by pity ought to effect a conversation book for the busy practitioner, to be referred to in case he feels that a slight conversational indiscretion, at a time when the right words of advice and of consolation are expected, might cause unpopularity, with the usual stigmata, by raising a pother in families heretofore friendly to him. Now though the pamphlet under consideration is the very type and norm of the thousands annually produced in Germany, it is arresting, inasmuch as it carries to successful issues, the knotty problems involved in what should constitute the correct filiation of ideas when the sorely-tried doctor is called upon to assume the role of philosopher.

According to many thinkers in the realm of medicine, it is well for the medical aspirant after the guerdons of popularity and success, to adapt himself to the daily walk of the various classes, so that the atmosphere of their daily life and the staple of their daily conversation will not be foreign to him when a critical time arises demanding gentle exhortation to meet their real wants. An apprehension of this need has been dwelled upon so often that its mention here must strike the reader as a commonplace of criticism, but though the mastery of the art of the right word may be achieved after an arduous apprenticeship of

*Aeertzliche Beredsamkeit. Von Dr. med. Henry Hughes, Arzt in Bad Soden a. T. Curt Kabitzsch (A. Stuber's Verlag), Wuerzburg, 1909.

some years, we doubt if conversation specially prepared for emergencies, such as those described by Dr. Hughes in his book, are virile enough to stand in the foreground of modern medical thought. For the quicksands to avoid in doling out sympathy or strong words tinged with a kindly philosophy, are not merely the verbal mistakes that bring their own retribution with them, but a stiltedness and preparedness through whose thin veil the discerning at once detect the falsity and insincerity of our sentiments.

A complex problem, indeed, is the matter of effective words to bring about the mental uplift of a patient cowed by real or imaginary torments. Should a fragment of truth in regard to pain, magnified though it be to the *n*th power, be combated by something besides a positive negation born of bluntness and crudity? and, on the other hand, should a truthful but uneducated statement, dissociated from exaggeration, though clairvoyantly understood by a mind penetrated with the scientific spirit, be graciously received despite the fact that its halting presentation has the hall-marks of unintentional inaccuracy? What sort of conversation on the part of the physician best applies in each case? Beyond a doubt, generous candor in certain crises works woe and duplicity,—does justice only to the rather base impulses characteristic of the spirit of contented shallowness. It is obvious, then, that mere words, learned parrot fashion from a book indited by a conventional mechanic of the pen, will cause only anguish to the cultured and convert the unlettered from mild creatures, begging for assuagement, into truculent beings demanding in loud, peremptory tones, immediate relief.

To postulate that in a case of renal colic composure will ensue if the physician exercise the gentle philosophy of benignity, instanced by sympathy and a description of all future attacks as matters not to be feared but to be met with a joyful mien, is carrying the optimism of these modern days too far, and, moreover, proclaims Dr. Hughes a delightful expression of the affluent mind environed by seriousness and untouched by humor. Again, to engage a patient in earnest and abstruse converse on the harassed subject of heredity, when fear is besetting her lest some manifestation will sooner or later evidence itself, is the sort of mental healing that can benefit only strong minds and, we take it, the mind of the victim of the author's dialectics was far from strong, otherwise there would have been interruptions on her part, a fact not to be noted. Indeed, in this apogee of the nonsensical, devoted to many sermons on how to treat frivolity, immorality, self-sacrifice, melancholy, horror of death, heart disease, renal colic and various other disturbances, conversationally, the patient's point of view, as it would be expressed in words, is completely ignored; from which we infer that

tolerance of another's opinion is quite foreign to all apostles of conversational therapeutics, who assume a prophetic attitude toward those whose individual enthusiasms are below par on account of an aridity resulting from lack of tenderness and moral elevation.

THE MONTHLY STATEMENTS OF THE ST. LOUIS HEALTH DEPARTMENT.

Of all the periodicals which reach our desk, none exceed in interest the monthly Statement of the Health Department of this city. Should there be any among our readers who fail to look as carefully over these statements as the carefulness of their compilation deserves, we would urge them to "get the habit." If the average citizen feels justified in devoting a half hour daily to his favorite paper in order to learn what his fellows are about, may we not expect that the physician should, once a month, devote one-sixth of that time toward informing himself as to the status of his town in those matters which chiefly concern him? He will here find a sort of balance-sheet, exhibiting the final results of his activities. We say of *his* activities, for while his therapeutics are perhaps the least of the factors which control the death-rate, it remains true that the great hygienic and sanitary movements originate in and are chiefly promoted by the faculty. He will find here much to stimulate his zeal, and sometimes a corrective to his pride. Unless he make it his business to keep informed as to the sanitary condition of the community as a whole, he will soon lose touch with the more progressive part of the profession, for the physician is every day becoming more of a statesman, in the best sense of that term. Beside the necessary relation of the individual doctor to the individual patient, the profession is rapidly becoming, in its corporate function, the healer of the nation. We doubt not that the beneficent rôle of the doctor as a publicist is becoming better appreciated; his voice will be hearkened to the sooner in matters not purely medical, and the intellectual average of public opinion thereby correspondingly raised.

Let us take the last monthly statement received, that for June of this year. We will incidentally note some odd things requiring explanation. First of all is the department estimate of the population, 722,200. This is smaller than some of the newspaper and directory estimates, and probably nearer the truth. We read that the figure is "computed on census figures of 1900 (575,200) at the rate of two per cent. annual increase." Formerly, and until last April, the department's estimates were at the rate of *four* per cent. annual increase, but this was changed when the census showed the population in 1900 to be, as above stated,

575,200, whereas the department's estimate for that year computed at 4 per cent. annual increase over the figures for 1890 (460,000) had been as much as 623,000. But the strange thing now is that *two* per cent. annual increase over 575,200 will not yield 722,200, or anything like it, for 1908. We are at a loss to know why this misleading statement is made. The fact is that the estimate as published is based on the police census of 1907, modified by certain considerations, such as the large afflux from without the city. We are not in a position to question the correctness of the estimate, but protest against the statement that it is "computed on the census figures of 1900, at the rate of two per cent. annual increase" when it is manifestly not so computed. We may get a hint as to the present population from the figures for 1890 (460,000) and for 1900, which show an increase of twenty-five per cent. for that decade.

The next point of interest is the proportion of colored to white, there being 46,500 of the former to 675,700 of the latter. These figures, however, like that for the total population, are only estimates. Taking the more reliable census figures for 1900, we find whites, 538,200, and colored 37,000, or 6.9 per cent. of the whole. Of course, this does not mean that the population of the city contained in 1900, 6.9 per cent. of African blood, since those having as much as seven-eighths Caucasian ancestry were still counted as "colored."

The death-rate for the month is given at 0.99 per 1000 for the white, and 1.67 for the colored. In other words, a colored individual's chances of dying within that period were, to a white person's, other things being equal, about as 17 to 10. Contrariwise to what one might expect, while the colored population during June furnished 12 per cent. of the deaths at all ages, there were among them only 7 per cent. of the deaths occurring under five years of age.

Turning our attention to the first table, giving the reported mortality for June, we at once notice a curious apparent discrepancy which requires an explanation. The causes of death are listed in horizontal lines, while the vertical columns show age, sex, social relations and color. Now the additions for "ages" do not agree with those for "sex," "social relations" or "color," the last three, however, agreeing among themselves. This is explained (but not in the "statement") by the fact that only adults are listed under "sex" and "social relations," while "color" for those under five years of age is shown in a separate column.

Glancing down this table, we are shocked to learn that one death in about thirteen was violent, while every sixty-second death was a suicide. The number attributed to malignancy, 49, is appalling when

we reflect that many deaths really due to cancer are reported under other titles. If we estimate that a case of the fatal sort lasts on an average five years, we reach the conclusion, even taking the figures as given, that there must be nearly three thousand fatal cancers in St. Louis, not reckoning the slow-growing superficial epitheliomas usually amenable to treatment.

The table giving total deaths and death-rate, and deaths from the eight principal zymotic diseases, in eleven of the largest cities of the United States during 1907, is highly interesting, but not convincing as to death-rates, inasmuch as the population for each city is merely estimated and may in some instances be wide of the truth. On the face of it, St. Louis makes the best showing of all, with 14.54 deaths per 1000 annually. San Francisco and Chicago are almost tied for second place, with 15.20 and 15.25 respectively. New York has 18.48, while New Orleans has the highest death-rate, 21.74. While the population of the latter city is not quite half that of St. Louis, the number of deaths from consumption is nearly as great (1052 to 1109). In other words, one's chances of dying of consumption in St. Louis are one-half of what they are in New Orleans; about one death in nine (10.7 per cent.) in St. Louis last year was due to consumption.

There is a map showing the boundaries of the sanitary districts, with the population and number of deaths in each. One might suppose that the down-town congested districts, with their crowded tenements and filthy courts, would show a far higher death-rate than the zone lying to their west. A critical study of the report for June, however, shows no such condition.

The city is divided into seven sanitary districts. Districts 2, 3 and 4 comprise the territory bounded on the east by the river, on the west by Jefferson avenue, and stretching from Palm street (3000 N.) to Arsenal street (3100 S.). While this tract does not cover more than one-tenth of the incorporated area, it harbors 40.4 per cent. of the inhabitants. In June it furnished 41.2 per cent. of the deaths. The difference between these percentages is sufficiently small to fall easily within a margin of variation explainable without an appeal to such factors as overcrowding or inferior living. Taking these figures alone, one is led to believe that the down-town parts of St. Louis are as sanitary as the West-End.

Taken as a whole the report shows St. Louis to be a healthful city, and reflects credit upon our Health Department.

THE PSYCHOLOGY OF SUCCESS.

The absorbing topic of psychology is in the air. The etymology of *Abracadabra* is simplicity itself compared with the variegated studies which have avalanched us of late. To mention the most important there are Th. Ribot's "*Psychologie der Aufmerksamkeit*" (Leipzig, Ed. Maerter), Dr. Theodor Kappstein's "*Psychologie der Frömmigkeit*" (Leipzig: M. Heinsius), Vorbrod's "*Psychologie des Glaubens*," Edward Bradford Titchener's "*Elementary Psychology of Feeling and Attention*" and David C. Taylor's "*Psychology of Singing*." A formidable array, these, with enough of the subtleties of the subject to minimize polemical antitheses. But the calmly scientific mind, though open to persuasion, is somewhat mystified, if not alarmed, by the onslaught, and though its dominating qualities are acutely sensitive to new impressions and opinions when their stamp is not that of an extraordinary assertion, many objections are rightly raised by it against the literary offering not narrated in the scientific temper. Now, of all the recent expositions on certain phases of this interesting subject, none is of greater worth than Dr. Thomas Claye Shaw's recent lecture "*The Psychology of Success*," for it proves the dictum that "science rests not on intuition, nor on tradition, but on patiently accumulated observations which on a sudden flash into a law."

That our finite faculties are not incapable of achieving success when allowed the freedom that comes from a disregard of the seething currents of conflict between social and mental inequality that rages without—a rude dismissal, so to speak, of all the clashing that is inimical to singleness of mind—is made plain to us by the lecturer in the statement that the fortunate goal may be reached by four mental necessities, viz.: "a clear view of the end, a judicious indifference to the sentiments aroused by the sweeping away of obstacles, an indomitable energy, and a power to resist the temptation to rest on the soporific plain of mediocrity." Here is no mention of those adventitious factors on whose reliance for help depend the illogical for a fruition of their desires. Starting out on their careers with a mental equipment that bespeaks only encouragement from those whose praise is the indiscriminate froth of vapid minds, they are soon engulfed in their self-conceit with results that make even the approach to the outer circles of the glamor of success well-nigh impossible. Unfortunately the realization of all this comes too late, if it ever does come, and then one hears imprecations against an unkind Providence for placing "bad luck" in the way of a specimen of mankind, who, equipped with the highest mental faculties, sought to the best of his abilities to override the obstacles that

would not be downed. And all along troops, if not myriads, of stubborn souls, hearing or reading of this instance of exasperating failure, refuse to learn the penalties the lesson holds; but, making much of the unyielding impedimenta, and giving not even a glance to the real psychological reasons, imitate where copy requires but a quick wit and absolutely no coherence of the highest mental faculties. And thus the category of the unaccountable failures, as judged by those who have fought downwards instead of upwards "through the weight and confusion of earthly things," grows until even the critic imbued with the best gifts of scientific research, is prone at times to forget the psychological reasons.

When psychology is directed to so important a matter as the means of achieving success, the pause it gives us should be fraught with weighty lessons, especially for the American people. For the Alpha and Omega of our earthly careers, according to the pervasive teachings of many of our unwise sociologists with a reputation for power of logic and enthusiasm, is achievement of some sort, no matter what the means. That psychology is a neglected quantity in the presentation of their so-called cogent briefs, is a matter that calls for regret; for its introduction would not only curtail their diffuse discourses, by giving the lie to many of their specious arguments, but would make clear to many befogged intelligences, the hopelessness of their desires, unless backed by something better than the simulation of strong personality, and the various devices, set up by others, as mile-stones on the road to success.

LITERARY NOTES.

A book of interest to medical men who are contemplating a sojourn of some months in Germany, is Mrs. Alfred Sidgwick's "Home Life in Germany" (The Macmillan Company). Most American doctors who go abroad for the first time are quite unprepared for the new, and somewhat strange, conditions which obtain in foreign countries; and granting this to be the case it can readily be understood how ill they fare when rather embarrassing situations arise out of their ignorance of social customs. Of all European countries with which we have any acquaintance, Germany stands easily at the head as regards that bugbear of all travelers—the awe-inspiring Social Fetich. That the terrors of this have been exaggerated by those who, on account of indifference, not to say willful stubbornness, have suffered slights because they overlooked so important a matter as adaptability, has been plain to us for years; therefore any book which sets forth intelligently the why and wherefore of the present social system in a foreign country so that a closer relation between tourist and the people among whom he finds himself may be ef-

the importance of this subject. Medical men fresh from our colleges and about to embark on a European trip are prone to make light of the social customs of a foreign people; that this is wrong and does them infinite harm is made evident to them often when it is too late to reap the full benefits of their stay abroad. Hence books of the excellence of Mrs. Sidgwick's "Home Life in Germany" can not be overrated.

A book which should have a wide circulation is Sir Frederick Treves' "The Cradle of the Deep," recently published by Smith, Elder and Co., London. In this new work of the distinguished surgeon will be found all those qualities of acumen, width of outlook, and literary merit which were distinctive features of "Tale of a Field Hospital" and "The Other Side of the Lantern." Seldom do we find in books written by doctors the commendable qualities which go to the making of a literary production above the ordinary; hence our delight when we come across one that must be considered good literature. Sir Frederick's account of a visit to the West Indies is not a narrative to be lightly read and then thrown aside, for its philosophy is too deep, not to mention its literary charm, to be treated in any manner but that in which an earnest student of literature is in the habit of treating a good book.

Among the books the well-known Paris publishers, Masson et Cie., have recently published the one entitled "L'Asymétrie de la figure" (The Asymmetry of the Face), by Dr. Richard Liebreich, calls for special attention. Contrary to the teachings of Lombroso and his followers, who are of opinion that asymmetry of the face is a malformation, a stigma, a sign of degeneration that accompanies a faulty development of the intelligence, Dr. Liebreich proves the opposite: that asymmetry is a normal condition and has always existed, an opinion based on his measurements of crania and studies applied to the living of the various races. As to the origin of the asymmetry, the author states he has discovered it in certain conditions of foetal life. Fourteen illustrations—crania of mummies, male and female twins, and types of different races—accompany the text. The book concludes with an interesting chapter on the asymmetry of the face as pictured in art.

An important contribution to the subject of arteriosclerosis and atheromasia, is Dr. Teissier's "Artério-Sclérose et Athéromasie," just published by Masson et Cie, Paris. While this new work is not a complete treatise on the subject, it is a monograph of considerable import, containing the author's personal views based on clinical observations,

fect, and foolish pitfalls avoided, is to be welcomed by all who recognize supported by all that pathological anatomy and experimental medicine has already taught us. Dr. Teissier's object, if we have read aright, is to emphasize this clinical point: atheroma and arteriosclerosis are two unlike processes, distinct in their etiology, pathogenesis, and their lesions as in their symptomatic manifestations and their evolution. He reviews successively the etiology, pathological anatomy and pathogenesis of the two diseases; the tendency of hyperdistention in arteriosclerosis; the syndrome of the disease; and the general symptomatology of atheroma. The book ends with a chapter of unusual interest on the treatment of arteriosclerosis based on pathogenic conceptions as expounded by the author.

Those indefatigable researchers in the province of medical history, MM. Witkowski and Cabanès, in their latest contribution, "*The Gaieties of Esculapius*" (*Gayetez d'Esculape*, Paris: Maloine, 1908) devote a long chapter—125 pages—to the study of the clyster in its historical sense, thereby evolving a unique iconography of a subject in all its serious and humorous phases. Who the inventor of the syringe was is not recorded in history, which is really quite unfortunate, for its usefulness is such that the honored name ought not to be engulfed in oblivion. But though this fact is quite deplorable, the outcome of the inventor's genius is not only highly appreciated to-day but was already known in France in the fifteenth century, where it enjoyed a vogue which placed it, especially in the royal households, in the front rank of domestic Lares and Penates. Thus Louis XI., famous for his constipatory tendencies, so firmly believed in the virtues of the clyster that he had his court physicians to prescribe the same treatment for his greyhounds. And the titles and riches he lavished on the Italian physician, Angelo Catho, were the royal way of rewarding one who had shown what perspicacity and acumen can do in saving a king's life from an attack of apoplexy by the clyster! Henry IV. was not at first favorably impressed with the necessity of frequent injections, but later in his career he became a convert, and like all converts to a good cause, must have become a rabid enthusiast, for in one year his physician, Charles Bouvart, prescribed 215 purgations and 212 clysters. But it remained for Louis XIV. and Louis XV. to celebrate the triumph, the apotheosis of the syringe! No better illustration of its almost deification can be found in history than the following description, which the Duke de la Rochefoucault-Liancourt has left us, of the pomp and ceremony attending an injection administered to Louis XV. in April, 1774: "*The*

Faculty, gathered around the royal bed, formed itself in line to allow the Master Apothecary, carrying respectfully the syringe, and the page, holding the light, room for the interesting operation. M. Forgeot, the apothecary, having placed himself in a position so that he could work dexterously, was about to insert the canula when all of a sudden the page, fearful lest the intense illumination of the royal anatomy might incommode his majesty, if not be a source of danger to his health, seized a hat belonging to one of the physicians, and quickly installed it between the candle and the royal person. The result can easily be imagined for the complete darkness which ensued was more than enough to discomfort the Master Apothecary. What person, I beg, be he of the most vivid imagination, can conceive of the terrible anger on the part of the apothecary, to whom the eclipse meant disastrous failure, or of the astonishment of the physicians, the indignation of the apothecary's assistant, and the almost irrepressible desire of the courtiers to laugh outright."

Dr. Franz Ludwig von Neugebauer, Director of the Gynecological Department of the Evangelical Hospital, Warsaw, Russia, is the author of a book which bears the title, "Hermaphroditismus beim Menschen" (Leipzig: Dr. Werner Klinkhardt. 1908). As a study from a clinical, anatomical, and medico-legal point of view, the book is arresting for the reason that it cannot fail to be of great utility in determining the sex in all doubtful cases, and assist in revising the social status of abnormal individuals. The work has a completeness that is gratifying, and is made further valuable by statistics of all the known cases of hermaphrodism, or better still, pseudo-hermaphrodism. And here by the way it would be well to mention that Dr. Neugebauer has personally observed and described more cases of this anatomical peculiarity than any other authority. He is already well known as the author of books which have left their impress on the scientific mind of to-day, and in his latest contribution he keeps on the high level of his former attainments. As illustrative of his deep knowledge of the special subject which has engaged his attention for years, are the two papers entitled "Of What Value is a Knowledge of Pseudo-Hermaphrodism to the Practitioner?" and "Has a Hermaphrodite the Right to Determine the Sex to Which He or She Belongs?" which appeared in the INTERSTATE MEDICAL JOURNAL for February and May, 1904, respectively.

ORIGINAL ARTICLES.

THE DEVELOPMENT OF THE EXTERNAL GENITAL ORGANS OF THE FEMALE WITH ESPECIAL REFER- ENCE TO THE HYMEN.

By FRED J. TAUSSIG, M. D., of St. Louis.

In a consideration of the development of the external genitals we must go back to a very early period of fetal life. A portion of the primitive groove between the neurenteric opening and the caudal end of the embryo closes over and we have at this caudal end the formation of a membrane consisting merely of the single layer of ectodermal and entodermal cells without any mesoderm. This membrane, the cloacal membrane, marks the site of the future cloaca. A portion of the enteric canal just anterior to this membrane then begins to proliferate forming the allantois. Along the course of the allantois run the umbilical vessels. It is into the lower portion of the allantois that the Muellerian ducts project and here a little higher are to be found the openings of the ureters. Gradually the septum between the enteric canal and the allantois prolongs downward toward the cloacal membrane so that this area which is generally termed the cloaca is divided into a ventral portion, the urogenital sinus and a dorsal portion, the rectum.

The Muellerian ducts which enter the urogenital sinus at a point slightly above the junction of the sinus and rectum form an acute angle with the sinus. The septum at this angle now begins to prolong so that by degrees the Muellerian ducts point directly outward and we have formed in place of the urogenital sinus, two canals, the one, the urethra and the other, the vagina. The upper portion of the allantois widens to form the bladder.

Coming now to consider the external genitals, we have in the earliest embryos the formation of a central tubercle or prominence with a genital lip and a genital fold to either side. It is only after the embryo has reached a development of 6-8 cm. that the appearance of the external genitals differs according to the sex. The genital tubercle in the male becomes the penis; in the female, the clitoris. The genital lips and folds in the male become the scrotum, in the female the labia. The urethra which in the male enters into the development of the genital tubercle, in the female merely enters the genital cleft or vestibulum without directly being considered in the development of the external genitals.

Standing at the border line between the external and internal genital organs, the hymen has for many years been the subject of much contro-

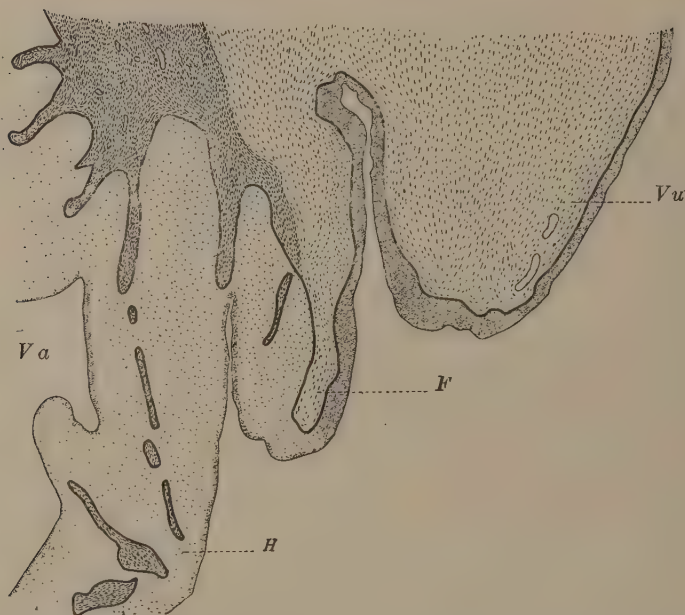


FIG. 1. Drawing of dorsal portion of hymen, vulva and vagina in median sagittal section (Embryo 1). Section No. 183. This shows clearly how the vulvo-vaginal fold is distinct from, and posterior to, the hymen. By their density and direction, the connective tissue fibres of the vagina are set off from the vulvar connective tissue. The difference in epithelium is also indicated in a general way. F., fold; H., hymen; Va., vagina; Vu., vulva. Magnified 40 X.

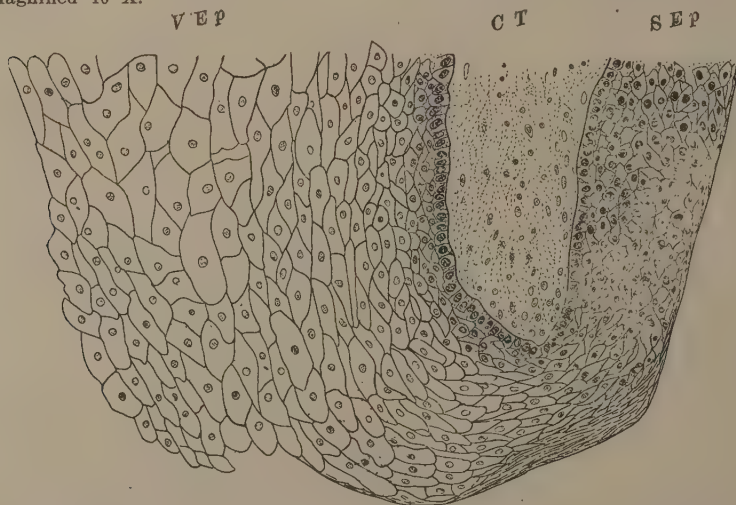


FIG. 2. Detail drawing of the tip of the vulvo-vaginal fold seen in Fig. 1, to show the difference in character between vaginal epithelium and sinus epithelium. C. T., connective tissue; V. Ep., vaginal epithelium; S. Ep., sinus epithelium. Magnified 100 X.

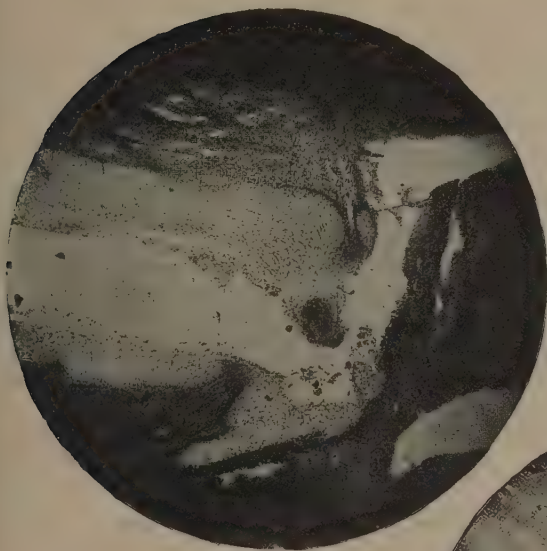


FIG. 3.

that do not meet (hymeneal orifice). To the right of it lies a high, narrow fold, rising from below, lined on the left (anterior) side by vaginal, on the right (posterior) side by sinus epithelium. In Fig. 4 the exact position of this fold and its relations can be better seen. The hymen can be clearly recognized to the left of it as a con-



FIG. 4.

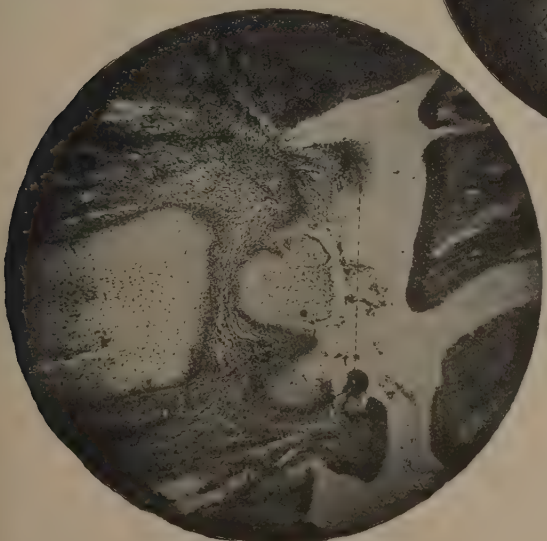


FIG. 5.

FIGS. 3-5. Sagittal sections through the hymen. The dotted line is drawn at the level of the entrance of the vagina into the urogenital sinus. It is to the left of this that the hymen is formed. Fig. 3 strikes above the center of the hymen, so that it appears as folds from above and below

nective tissue membrane lined on both sides by vaginal epithelium. This is the most convincing picture in the series. Fig. 4 is taken lateral to this. Only a tent-like remnant of the vulvo-vaginal fold can be seen below and to the right. The hymen is seen as a thick band. Papillæ appear on the posterior side. Magnified 45 X.

versy among embryologists and gynecologists. Some have studied the subject mainly from the standpoint of malformations seeking thereby to interpret the true formation of the hymen. Others have made gross dissections of fetuses ranging from the 4th to the 9th month of development, and still others have studied these structures microscopically in order to determine their point of origin. Strangely enough, only two writers upon this subject have spoken of serial microscopic sections and yet it is hardly necessary to bring forth evidence to show how essential for the study of such a minute object is the study of serial microscopic sections. In order to determine the relationship of the hymen to surrounding structures the serial sections that I made in my six cases included the entire pelvic organs.

There are four main theories as to the development of the hymen.

(1) The *vulvar* theory according to which the hymen is a fold originating from the vulva or sinus urogenitalis. This is based almost entirely upon consideration of certain rare conditions such as the presence of a hymen in absence of the vagina. The hiatus of time between the discovery of these anomalies and the development of these fetal structures is so great that an infinite variety of interpretations is open in each case. Such anomalies may be used as corroborative evidence but by no means as proof of a particular method of development.

(2) Another theory is what I have termed the *bilammellate vulvo-vaginal* theory. According to this, one fold of the vulva and one of the vagina coalesce to form the hymen. That such an apparent double hymen is occasionally found is true but my interpretation is a different one, as will appear later.

(3) A third theory, the one at present accepted by most anatomists, is that the hymen develops from the membrane left at the point where the Muellerian ducts enter the urogenital sinus. This I have called the *uni-lammellate vulvo-vaginal* theory. According to it one side of the hymen is composed of vaginal, the other of vulvar tissue. There is ample evidence at hand to show that at the point where vagina and vulva meet, through the bulbous proliferation of this portion of the vagina there is formed a fairly well developed membrane. It is likewise true that it is at this point that the hymen develops. What is lacking proof however is that this first membrane and the hymeneal membrane are the same structure or that the latter develops from the former.

(4) Finally, we have the *vaginal* theory as whose chief exponent is von Dohrn. Von Dohrn believes that the hymen is formed after the breaking through of the coalesced Muellerian ducts into the urogenital sinus and at a point further up in the coalesced ducts. It is this last named theory that is supported by the evidence of my cases.

And yet my views are by no means a repetition of Von Dohrn's, for they involve the interpretation of certain structures which were not recognized by him and to a great extent explain the great divergence of

opinion heretofore. I found namely that in embryos of 16-18 cms. length, at the point where the Muellerian ducts break into the urogenital sinus there is at times a well defined fold such as is described by Nagel as the hymen. There is at this time no decided connective tissue proliferation. Immediately following this stage, in embryos of 20-22 cms. length such proliferation takes place. One long fold of vaginal tissue projects just internal to the fold at the entrance until the vaginal lumen is almost wholly closed at this time. This is not merely a fold such as the one in the 16 cm. embryo was but is a thick well-defined membrane. In later stages, 28-30 cms. embryos, the original fold can still be distinguished extending from the dorsal side of the vulvo-vaginal opening but it is now proportionately very much smaller so that it might readily be overlooked beside the fleshy membrane of vaginal origin lying further inward, the true hymen. There are at this time no secondary papillæ or folds such as are to be found in the vagina of the full-term fetus, so that it could not be said that this structure which I take to be the hymen is merely such a secondary fold or papilla. It is a thick fleshy occluding membrane, the only such membrane found. As further proof that it is purely vaginal in origin is the fact that even at birth it is lined on both sides by the same vaginal epithelium. The difference in the character of vaginal and vulvar epithelium will be evident from the illustrations. The connective tissue fibres which go to make up the hymen are directly continuous with the vaginal connective tissue fibres and are in no wise associated with the vulvar connective tissue. Finally, the hymen has papillæ on both sides and the edges of its orifice or orifices are often irregular, as you would expect in a membrane resulting from a proliferative process but such as you would *not* expect in a membrane resulting from a ringlike dilatation.

THE ROENTGEN RAY AS AN AID TO THE DIAGNOSIS OF TUBERCULOSIS OF THE LUNGS, WITH DEMONSTRATION OF SKIAGRAMS AND NEW ORTHODIASCOPE.

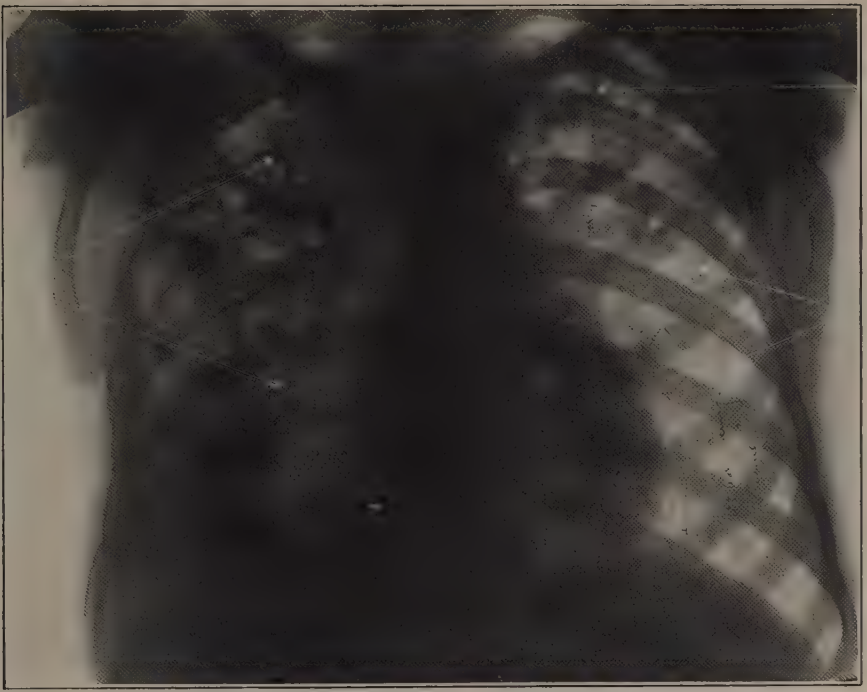
By WILLIAM ENGELBACH, M. D., and R. D. CARMAN, M. D., of Saint
Louis, Missouri.

The value of the Roentgen ray as an aid to the diagnosis of pulmonary tuberculosis is not generally recognized. In fact, it has only been during the last few years that the rapid development of technical roentgenology has made its application of practical value in the diagnosis of tubercular and other pulmonary diseases.

Outside of the organs contained in the mediastinum, the normally air-filled lung and vacuum pleura are very pervious to these rays, and therefore gives a shadowless skiagraph. Tuberculosis, as well as other diseases of the lung, causes more or less structural change either increasing or decreasing the air-contents of the lung, thereby producing a variation of the normal density of these tissues. The gradual perfection of technique enables the expert roentgenologist to show an exquisitely fine differentiation of approximated tissues varying even to the slightest degree in density. These lesions, therefore, causing sufficient variation in density from the normal, can now be demonstrated by the skiagraph and fluoroscopic screen. Whether roentgenology can give a positive interpretation of the etiology and the pathology of those lesions which it is able to define and locate is yet an open question. That tubercular shadows have more or less definite characteristics, however, will be demonstrated later. Besides these shadow findings, skiagraphy is able to demonstrate very accurately any abnormality in the movement of the chest and in the change in the shape, size and position of its organs. This evidence in itself has only an indirect bearing upon the diagnosis of tuberculosis, and is helpful as a secondary sign indicating some primary tubercular lesion which in itself may not be demonstrable with the x rays.

The importance of the proper interpretation of the x ray findings in these conditions is of necessity absolutely essential. The technique must be expert and obtained with the most improved modern equipment; for instance, the picture must be made in the shortest possible time, i. e., one to five seconds, etc. These skiagrams, perhaps more than any other, require years of experience and close application of controlled diagnosis for their proper interpretation.

In giving the following summary of this application of skiagraphy, with the demonstration of skiagrams of these conditions we make no claim for originality, but merely attempt to select from the works of Holzknecht, Shoenberg, Kassabian, Rosenthal, Hickey, Willey, and others,



Bilateral infiltration second stage tuberculosis.

(Radiograph by Vernon J. Willey.)

1. Entire right lung, diffuse infiltration. 2. Infiltration of the entire left upper. 3. Early infiltration.



Second stage tuberculosis. (Radiograph by Vernon J. Willey.)

1. Pneumothorax with depression of diaphragm and displacement of heart to the left. 2. Diffuse infiltration of entire left lung. 3. Heart shadow

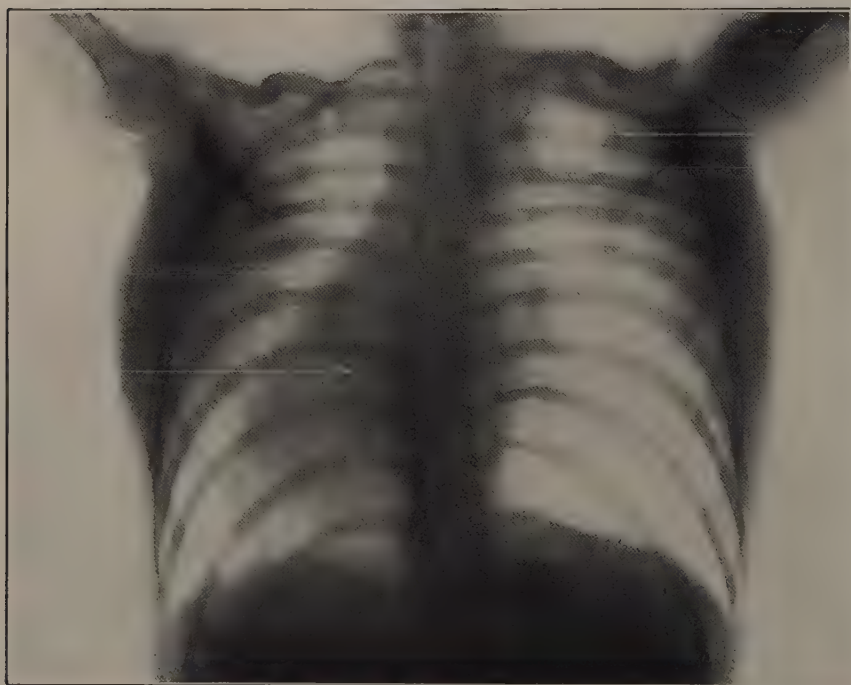


1

2

Small cavity in the base of the right upper lobe.

1. Cavity partly filled. 2. Cavity wall.



1

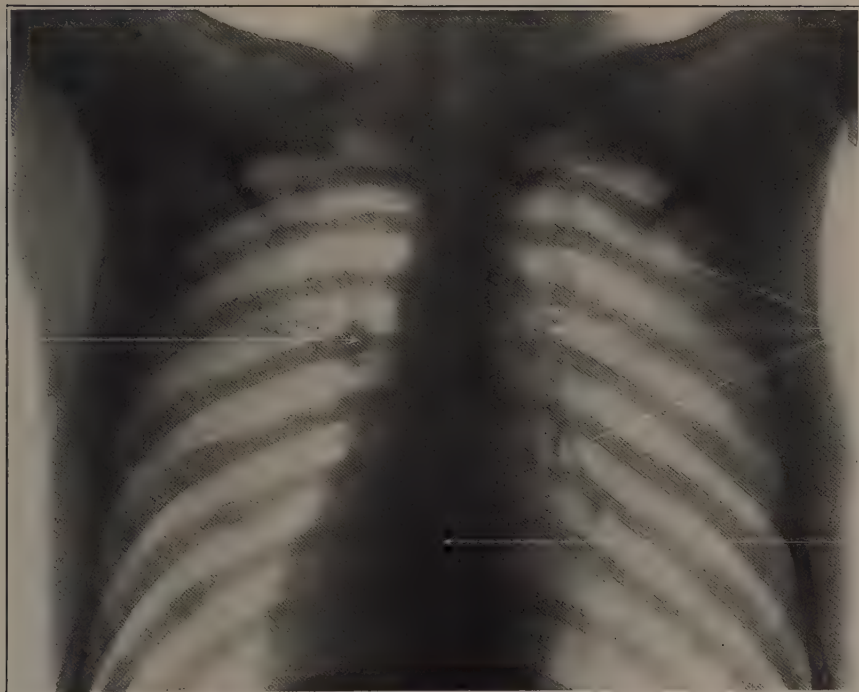
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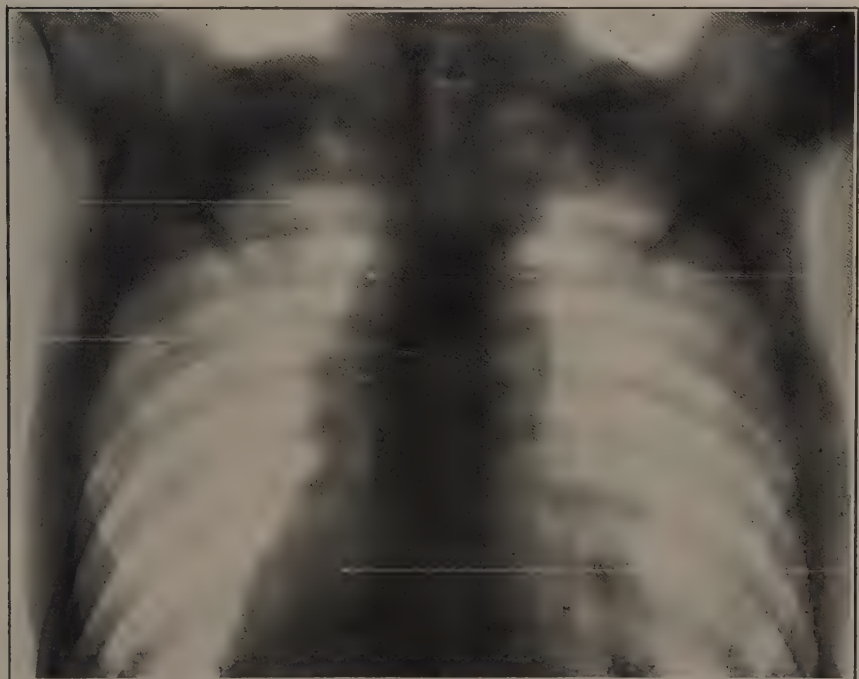
Cavity in the right upper apex.

1. Empty cavity. 2. Cavity wall. 3. Heart shadow. 4. Beginning infiltration.



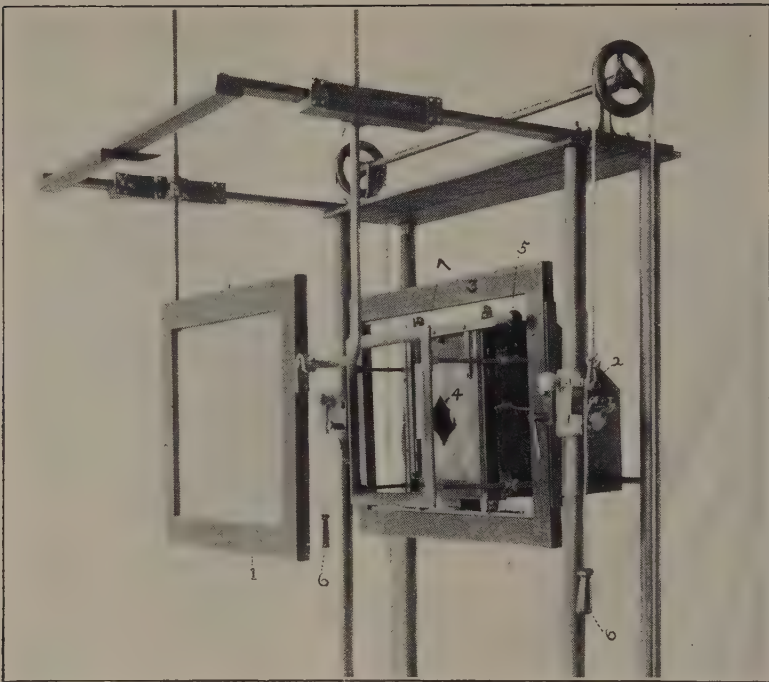
Tubercular (?) lymphadenitis. Lungs normal.

1. Calcified lymph gland. 2. Parabronchial thickening. 3. Heart shadow.



Aneurysm.

1. Normal lung tissue. 2. Aneurysm of the descending thoracic aorta.
3. Arch of the aorta. 4. Heart shadow.



New Orthodiascope.

1. Fluorescent screen mounted with lead glass.
2. Opaque box.
3. Supporting frame.
4. Adjustable shutter.
5. Handle to shutter.
6. For moving box laterally.
7. Compression frame.



New Orthodiascope.

1. Plate holder.
2. Opaque box for x ray tube.
3. Supporting frame.
4. Compression diaphragm cylinder.
5. Counter-weights.
6. Base.

some of the important principles of their art which are of practical value at least as confirmatory evidence in the diagnosis of tubercular conditions. In this summary the findings of fluoroscopy, skiagraphy and orthodiagraphy will be given without special mention of the technique or methods used.

Tuberculosis of the Pleura. On account of the large percentage of diseases of the pleura being tubercular in origin, and the frequent association of these diseases with pulmonary tuberculosis, they are considered an appropriate part of this article. Abnormal collections of free fluid or air in the chest cavity produce such a marked change in its density as to be very easily observed with the fluoroscopic screen or skiagraph. Pleurisy with effusion, although readily diagnosed by ordinary physical findings, is sometimes, when encapsulated or intra-lobular, difficult to differentiate from plastic pleurisy, lesions of the lung, displacement of abdominal organs, etc. Large effusions also often present the signs of complete consolidation of the lung with or without an obstructed bronchus, and are also frequently mistaken for a diffusely thickened pleura, or vice versa. These conditions are easily differentiated by a simple fluoroscopic examination. The x ray shadow of an effusion of the chest is denser than that produced by any other thoracic condition. This shadow is of an even, diffuse, dense opacity, and has, when the fluid is not too large or encapsulated, the hydrostatic properties of seeking its own level. The rib shadows are less distinct than on the opposite side. When the effusion is at the base of the lung it usually obliterates the shadow of the diaphragm and fuses with the shadow of any adjacent solid organ. The compressed atelectatic lung tissue above the effusion is denser than the corresponding normal lung of the other side. Displacement of the heart shadow takes place more markedly when the fluid is on the left side. This displacement, however, is one of the entire mediastinum with no marked abnormal relationship of the base to the apex of the heart. The movements of the diaphragm are restricted, depending upon the amount of the fluid. In contrast with these skiagraphic findings a thickened pleura produces a shadow of only a very slight veiling of the effected side, depending upon the extent of the lesion. This shadow is irregular in outline, very unequal in opacity, and without the slightest mobility. The ribs are closer together, the pleural cavity is decreased in size, and curvature of the spine and decreased movement is usually present in old contracture. Empyema gives findings very similar to pleurisy with effusion. There is usually more marked displacement of organs, and sometimes diffuse undulations or pulsations are observed with the fluoroscope. Kassabian says the shadow is the same as that of effusion except when edema of the chest wall accompanies the empyema which increases the opacity. It is, therefore, questionable whether differential diagnosis can be made between the pleurisy with effusion (serous, serofibrinous or hemorrhagic) empyema, hydrothorax, hemothorax, etc. In intra-lobular empyema, a

localized shadow corresponding to the intra-lobular fissure is presented. Differentiation of this condition from encysted empyema, cavity or abscess of the lung, is sometimes difficult by the skiagraph alone. There is no marked displacement of organs in the localized empyema, and it is rarely surrounded by a darker margin as is abscess or cavity of the lung. Diaphragmatic pleurisy produces a localized shadow at the base of the lung which obliterates that of the diaphragm, and consequently diaphragmatic movement is almost completely restricted. Subphrenic abscess causes a displacement upward of a motionless diaphragm, and usually some displacement of the heart, with the adjacent lung tissue above the diaphragm darker than normal. Sometimes the upper level of the shadow below the diaphragm is mobile on shaking the patient.

In pneumothorax the majority of cases of which are tubercular the skiagraph is a perfectly clear space of an enlarged half of the chest showing only the ribs in marked contrast with a light shadow caused by the air within the pleural cavity. In the upper internal angle of the affected side there is a shadow darker than the corresponding lung of the opposite side, which is cast by the retracted collapsed lung. The diaphragm is in a low position, its movements are greatly restricted or absent, and the mediastinum is usually displaced towards the non-affected side. The heart is usually markedly displaced and produces a very clear cut dark shadow on account of the contrast of the air-filled pleura. In hydro- and pyo-pneumothorax there are three different shadows on the effected side. The collapsed lung is shown by the upper internal shadow of a dark, hazy nature, sometimes containing a more solid dark tubercular area. Beneath this is a bright space produced by free air in the pleural cavity, and at the base of the thorax there is a dark uniform fluid shadow having hydrostatic properties and sometimes pulsating. Movements of the diaphragm are usually obliterated, and the displacement of organs is the same as observed in pneumothorax.

Tuberculosis of the Lungs. Second and third stages of tuberculosis of the lung produce very positive skiagrams. Cavities are usually very easily diagnosticated. An empty cavity produces a lighter area surrounded by a dark margin. Filled cavities give the same findings as consolidated areas, that of an irregular dark shadow. This dark area, however, usually becomes lighter after the patient is induced to empty the cavity by coughing, change of position, etc. This latter change of opacity differentiates it from an infiltration of the lung, tumors, cysts, encapsulated empyema, etc. A dilated bronchus surrounded by an infiltrated margin is frequently impossible to differentiate from a cavity, although its shape, form and number is a help in drawing conclusions. The findings in gangrene and abscess are practically the same as those of cavities, but are easily differentiated by the other methods. The x ray findings in these conditions producing cavity formation are of importance on account of accurately demonstrating their size, number and location.

Second stage tuberculosis consisting of infiltration or consolidation with or without beginning cavity formation is also very easily diagnosed by this means. The shadows produced by these lesions are more or less diffuse shadows having a marked variation in opacity, depending upon the amount and density of the lung tissue involved. They are characterized by their non-uniform opacity. In contrast with the shadow produced by consolidation of pneumonia, which is a lobar, uniform homogeneous shadow, these shadows vary considerably, presenting a more or less unequal, spotted appearance within a lighter shadow. They are usually located at the apices, not limited to a lobe, non-mobile in character, remain constant after expectoration, change of position, etc., are not as densely dark as a fluid shadow, but are much deeper in color than that of an adhesive pleurisy. They are differentiated from infarcts by being more irregular in density and shape, and not located at the periphery of the lung. They differ from atelectetic areas by not disappearing after coughing and forcible breathing. Other conditions such as tumors, cysts, echinococcus, actinomycosis, and blastomycetis of the lung produce circumscribed areas varying in opacity, which are difficult to differentiate from tubercular shadows by the skiagram alone. Malignant growths frequently pulsate in one direction, which is exceptional with tubercular consolidation. Aneurysms are easily differentiated by the expansile pulsation in more than one direction. We have found that in this stage of tuberculosis the x rays have given a more accurate diagnosis of the extent of the lesion than physical examination.

First Stage Tuberculosis. The earliest tubercular shadows demonstrable by the x rays are small, hazy, darkened spots, depending for their distribution upon the extent of the lesion. Multiple lesions show a mottled appearance of the affected lung. In comparing the physical with the radioscopic findings of incipient tuberculosis (cases upon which no positive findings could be demonstrated), Dr. Carman and myself have found the skiagrams very helpful. We believe in the very earliest cases that it is impossible to make a positive diagnosis upon the skiagraphic findings alone, but the characteristic x ray findings taken with the suspect physical and clinical findings warrant a positive diagnosis in a majority of these incipient cases. The non-tubercular conditions which might possibly produce either suspect, physical, clinical or x ray findings are usually excluded by a combination of these findings. Other conditions which usually give confusing x ray pictures simulating incipient tuberculosis are interstitial pneumonitis, beginning bronchiectasis, atelectasis and anthruchosis. The normal thorax usually gives a chain of small shadows along each side of the sternum which are produced by para-bronchial glands, bronchi and blood-vessels. These shadows are frequently mistaken for tubercular shadows in the lungs. From these shadows there frequently radiate streaked, fading lighter opacities, which have been considered the findings of para-bronchial pleural

thickening. Enlargement of these glands produces a distinct fusing of these normal shadows causing an irregular more or less opaque shadow in this location. Calcified tubercular lesions usually cast very sharp, small shadows which are difficult to differentiate, however, from anthro-cotic particles in the lymph glands and lungs. We have not found the vertical position of a small heart a very constant or helpful sign as an indication of incipient tuberculosis. William's diaphragm phenomenon, *i. e.*, the restriction of the movements of the diaphragm on the affected side, has been disqualified by a number of investigators as of any value in the diagnosis of incipient tuberculosis. They have demonstrated that this phenomenon was not present in the majority of positive tubercular cases.

Conclusions. The x ray examination is a very valuable adjunct to the diagnosis of tuberculosis of the lungs for the following reasons:

(1) Many of the indefinite anatomical conditions of the pleura are easily demonstrated positively.

(2) The lesions of third stage tuberculosis (infiltrations and cavities) are diagnosticated positively as to size, number and location.

(3) The extent of known tubercular lesions of the second stage (infiltration and beginning lesions) are demonstrated more accurately than by physical findings alone.

(4) Combined with the clinical and physical findings it affords valuable evidence in the diagnosis of a majority of the cases of incipient tuberculosis.

REPORT OF CASE OF ABDOMINAL PREGNANCY.

By C. M. NICHOLSON, M. D., of St. Louis.

Mrs. S., married, age 42 years, referred to me by Dr. Wm. West, was admitted to the Rebekah Hospital, May 8, 1907. Menstrual period had begun when she was 14 years old, and had been regular except during pregnancy and lactation.

Patient's previous history had been good. Eight months since she menstruated the last time, and with cessation of menstrual period she supposed herself pregnant though had felt perfectly well in every way until three months ago when she complained of a pain in the right iliac and lumbar regions. On admission she was found to be in fair condition. Heart, lungs, and kidneys normal, abdominal walls thick, abdomen prominent, palpation showed irregular swelling, mostly to right of median line, reaching from the lower margin of the liver to within one and a half inches of the pubes. Dullness over the tumor, resonance in flanks, tenderness on manipulation. Vaginal examination showed cervix was slightly enlarged; a mass, soft and elastic, could be felt on the right side.

After having been anesthetized and an incision made from the margin of the ribs to Poupart's ligament, a dead fetus was exposed when the peritoneum was divided. Head below, back to the right. The liquor amnii was small in amount, and the sac was adherent to the mesentery and omentum. The adhesions were rapidly separated and the fetus lifted out of the cavity. Up to this time all had progressed without difficulty, but when the placenta, which was attached to the intestinal wall, was removed the bleeding was furious; the cavity was packed with sterilized gauze and the bleeding controlled, but on removing the gauze the bleeding returned. Five yards of sterile gauze were left in the cavity and the lower two inches of the incision left open. A part of the packing was removed on the third day and the balance on the fifth day.

Embryo: Female, age 125 to 130 days, length 128 mm. This age is based on the length in mm. as formulated by Mall, viz., that in "embryos from 100-200 mm. long the length from the crown to rump in millimeters equals the age in days." The embryo has also been carefully compared with an embryo described by Minto of a known age of 123 days and in every particular it compared closely.

The weight, after formaline hardening, is 174 gms. Since there was some shrinkage the weight is probably considerably less than when fresh. The table by Fehling gives 120 grams as the average weight for an embryo of 4 months, and 285 gms. for an embryo of 5 months. So that the weight is probably something under that of a normal embryo of four and one-half months. The embryo is normal in all respects except that

the thumb on the right hand presented an undeveloped and abnormal condition.

The length of the umbilical cord 260 mm., which is somewhat shorter than is usual in this stage of development. The fetal portion of the placenta was smaller than is usually found at that age, and its vascularity was decidedly less than normal.

Convalescence was uneventful. Primary union took place throughout the wound except at the point where the gauze drain had been removed.

Patient left the hospital well, in four weeks after operation.

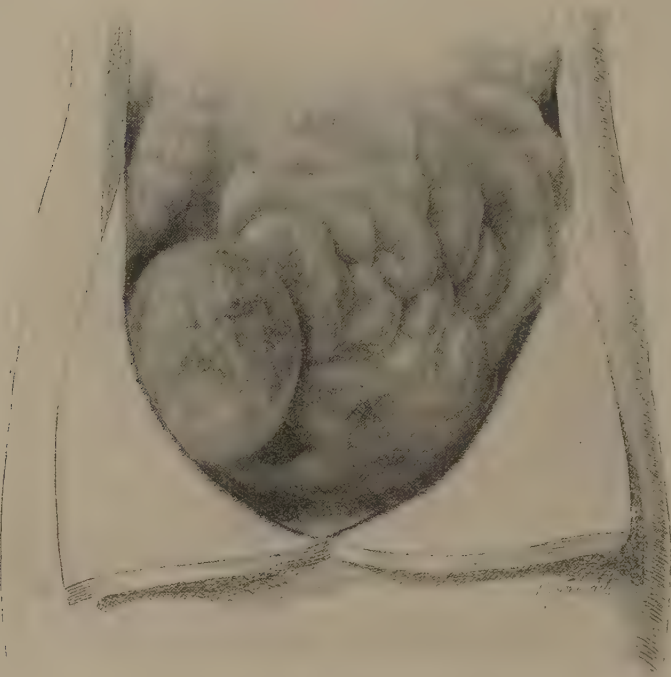


FIG. 1. Showing position of fetus and placenta.

Abdominal pregnancy has been known for the past eight centuries. Albucasis discussed the subject during the eleventh century as did Polinus and Cordaeus four hundred years later. Horstius during the sixteenth century, related the history of a woman who conceived in March, 1547, and the remains were still in the abdomen in 1563. During the past two centuries the subject has received the attention of medical observers generally.

The method in the human by which the ovum gains access to the tube, after escaping from the ruptured follicle, is a question of interest and one which has given rise to endless discussion.

The process is clearly understood, in those animals where the ovaries are completely, or partly, enclosed in a peritoneal sac, into which the tube opens; but in women, and in animals in which the ovary projects freely into the peritoneal cavity, no satisfactory solution of the phenomena has as yet been obtained.

Numerous theories, explaining the manner in which the ovum enters the tube, have been advanced, the one most generally accepted being that the cilia upon the fimbriated end of the tube cause a current in the capillary layer of the fluid which lies between the various pelvic organs, so that the ovum, on escaping from the follicle, is taken up by the current and wafted towards one or the other tubes, whence it is carried to the uterus.

Pinner injected cinnabar and Lode the ova of ascarides, into the peritoneal cavity of animals and found that they made their way into the pelvis where they were taken up by the tubes through which they were carried into the uterus.

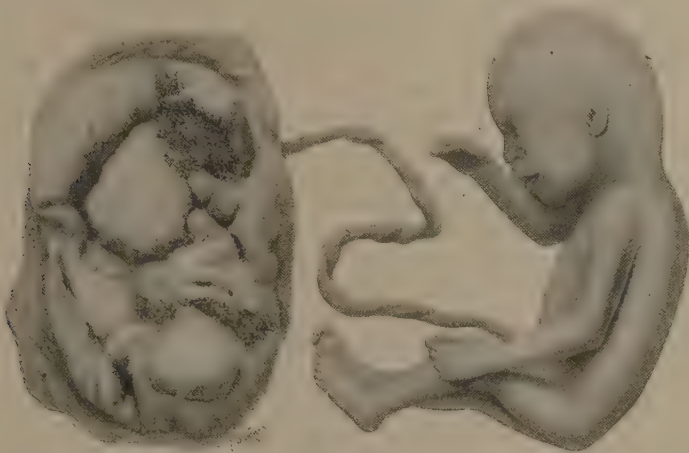


FIG. 2. Showing abnormal position of thumb on right hand and points of attachment of placenta to intestine.

Not infrequently, in animals possessing bicornate uteri, one finds, according to Bischoff, that the corpora lutea are in one ovary, while the embryos are developed in the uterine horn on the opposite side. Kussmaul first studied the possibility of such an occurrence in woman. He stated it might occur in two ways: 1. By the ovum passing down one tube, traversing the uterine cavity and then making its way up the opposite tube; 2, by making a circuit through the pelvic cavity and thus gaining access to the opposite tube. While we are unable to ascertain how frequently the latter takes place in normal uterine pregnancies, it is probably by no means rare. Should the ovum be arrested in its circuit through the pelvic cavity, its development can be explained by the fact that decidual cell formation occurs almost constantly in not gravid organs of a pregnant woman, independent of the location of the imbedding of the ovum.

Furthermore a change of connective tissue cells into decidual cells is effected not only in the mucosa of the inner genitals, but also in the surrounding serosa.

This was first found in extrauterine pregnancy. Walker described decidual cells in two cases of abdominal pregnancy in the peritoneum of the excavatio rectouterine and the posterior uterine wall. Dobbart found the same condition in a case of abdominal pregnancy. In tube pregnancy, decidual proliferations were described by Dobbart, Zweifel and Zedal. The first one who found these changes in the peritoneum in intrauterine pregnancy was Pelsleusden. Later Schmorl found decidual proliferations so constantly in over 70 cases of intrauterine pregnancy that he speaks of a physiological decidual pregnancy reaction of the peritoneum. He describes in the excavatio rectouterine, as well as along the posterior wall of the uterus, and the ligamenta lata, small macroscopically discernible, tubercle like, little knots which contain decidual cells. These proliferations also occur sometimes as filamantous formations; sometimes they extend plate-like over large regions. On the surface of the ovaries the changes were found by Kinoshita, Josefson, and Lange. Schnell and Lindenthal confirm the presence of decidual cells in the ovaries.

Much more surprising than these decidual changes in the peritoneum of the genital organs in pregnancy, are such in extragenital organs. Walker found very pretty instances of decidual proliferations on the serosa of the posterior wall of the bladder. Schmorl and Kinoshita found the same on the interior wall of the rectum. These findings appear to be plausible, as the bladder and rectum are connected with the genitals by the peritoneum. This connection can also be effected with other intra-abdominal organs by means of pathological formation of adhesions, whereby the adhesions serve, like bridges, for the propagation of the irritation of pregnancy and decidual proliferation. Into this class belong the observations of Schmorl and Lange, who showed decidual changes in the serosa of adherent intestinal loops. Similarly Prochownic found decidual cells in the large mesentery, which had formed a connection with a fallopian tube. In an exhaustive paper Wuhr arrives at the following conclusions:

Decidual cell proliferations occur in any kind of gravidity in the peritoneum of the pelvis. They may be observed microscopically in the form of nodules, fibrils or plates.

Decidual cell-proliferations in pregnancy also occur in the peritoneal covering of the organs in the large pelvis and the abdominal cavity. So far they have been observed in the small intestine, the large mesentery, and the vermiform appendix.

For a part of these cases there exists direct relation by means of peritoneal-adhesive junction with the ovary and respective chorion; but for another part, we have to deal with direct distal effect of gravidity in the proper sense of the word.

The decidual cell proliferations as derivatives of connective tissue cells of the serosa are principally to be distinguished from proliferated, hypertrophic peritoneal endothelium. The latter are observed in productive inflammations of the peritoneum of any etiology, as well as in histologically similar processes of organic changes after hemorrhages in the peritoneal cavity.

Hypertrophic peritoneal endothelia in gravidity, therefore, have, even in spite of superficial similarity with isolated decidual cells, nothing in common with either the latter nor the specific distal efforts of pregnancy as represented by the genuine decidua.

Undoubtedly a large per cent. of abdominal pregnancies are secondary, that is, follow tubal pregnancy, which terminate either by abortion or rupture of the tube. Orthmann says that by abortion is meant a premature interruption of pregnancy. The causes of tubal abortion are either contraction of the tube or the loosening of the attachments of the ovum by hemorrhages. Prochowink says: "Rupture is often if not usually secondary to abortion."

Duhressen believes that rupture frequently occurs after the death of the ovum. He divides the varieties of rupture into five classes: 1. Rupture with a living fetus, the rupture being caused by the progressive growth of the ovum. (The other four classes occur after the death of the embryo.) 2. Bleeding into the fetal membranes, frequently causing such great increase of pressure as to produce rupture of the thinnest wall of the tube. 3. Free bleeding into the tube, without means of exit, i. e., adhesion of ostium abdominale to the ovary. 4. Bleeding between the decidua serotina and the ovum with a strong reflexa. 5. Overstretching of the pregnant part of the tube, brought about by contraction of the uterine end of the tube while the abdominal end is fixed by adhesions. No. 2 occurs with a patent ostium abdominale.

Aschoff says that ruptures, caused by the destruction of the tube wall by the growing villi, are common, but are often unnoticed, being concealed by blood clot, and later by fibrin and connective tissue. He does not consider the presence of blood in the intervillous space to be pathological. He considers abortion to result from rupture of large vessels whose walls have been weakened by an invasion of fetal cells. He points out that the vessels are larger and have less support in the tube than in the uterus, there being no surrounding decidua. The rupture is caused by increase of blood pressure, due, he thinks, in many cases, to menstruation. Tearing of the pseudo-reflexa he considers another frequent cause of abortion. All early ruptures are necessarily in the part of the tube wall where the placenta is attached. Abortion and rupture are both due to the same thing,—destruction of the maternal tissue by the proliferating cells.

Ulesko Stroganowa, in 1900, considered that the poor development of Nitabauch's fibrin is the cause of bleeding into the ovum. She points out also, as does Aschoff, that rupture is more common than most authors

assert, small ruptures on the placental site, due to destructive action of villi, being often patched up by blood clots. Large ruptures, due to stretching of tube wall, she considers, are usually outside the placenta site.

Heinsius, in 1900, considered that gradual rupture into the lumen of the tube, i. e., abortion, may be prevented, for a time at least, by layers of fibrin in just the same way as has been described by Aschoff and Ulesko Stroganowa in concealed ruptures on the peritoneal surface. Whether rupture shall take place abortion is determined by the direction in which is the most marked proliferation of fetal ectodermal cells, i. e., it depends upon which wall is more thinned, the partition sheet or the wall of the tube. Usually for rupture to be brought about, there must be a sudden increase of pressure, e. g., by opening a large vessel, which increases the size of an already existing opening in the tube wall. Secondary ruptures may occur in a tube in which abortion has already taken place. Contractions of still active muscle may lead to abortion by tearing the partition sheet.

The termination of extrauterine pregnancy varies, either the fetus is extracted by operation, delivered alive by abdominal section, putrifies and is partially absorbed, ulcerates the confining walls entering the bladder and bowels, through which the remnants are discharged, or carried indefinitely in the abdomen in the form of a lithopaedion. One that develops to term or near term is a clinical rarity.

Werder has collected records of forty cases of ectopic gestation delivered alive. Of these, 18 died the first week, five the first month, and one at six months from bronchopneumonia, one at seven months from diarrhea, 2 in 11 months from croup, one at 18 months from cholera infantum, thus leaving 14 to be accounted for; of these, five were reported living and well after operation, one after three weeks, one after six months, with no subsequent report. Two alive and well at one year, two at two years, and one at fourteen and a half years.

4500 Olive St.

INSTRUMENTAL UTERINE PERFORATION.*

By A. G. SCHLOSSSTEIN, M. D., of St. Louis.

Perforation of the uterus produced with an instrument is by no means a rare occurrence; there are a great many such accidents recorded in the literature on this subject and I think a great many more are never reported.

Some time ago I had occasion to observe the following case at the operation. Mrs. ———, age 31, married 10 years, consulted a colleague of ours on July 1st, 1905. She thought herself pregnant and stated the impregnating intercourse had taken place on June 8th. Patient consulted the doctor on account of the pernicious vomiting, from which she had suffered during previous pregnancies. Previous health had been good. She menstruated first at 15 and menstruation had been regular and normal since. This is her sixth pregnancy and she claims to have suffered from pernicious vomiting during each of the previous pregnancies. The vomiting usually began almost at the beginning of the pregnancy, so that she had borne no child to term, but that each time artificial abortion had become necessary. The abortion had been produced between the third and seventh weeks, always by the same physician,—she had never been pregnant more than seven weeks.

There is no history of specific infection; patient is of a very nervous disposition. Examination revealed nothing abnormal about the pelvis or uterus; cervix softened somewhat. Patient suffered from occasional nausea, otherwise her condition remained normal until September 27th. Towards the end of this time she became more nervous and, although she was apparently anxious to have a living child, she seemed very much afraid of the delivery at full term. Her appetite became poor and on September 27th she vomited for the first time. This was about the fifteenth to sixteenth week of the pregnancy. Her general condition was good, temperature normal, pulse 72, of good volume, and there was no prostration.

During the following days she vomited more frequently, four to five times daily, in spite of the therapy employed. Her general condition remained good until October 2, the fifth day after beginning of vomiting. The patient and her family were very anxious to have the pregnancy terminated, and for that reason another physician was called in consultation. The consultant agreed with the gentleman in charge of the case that interference was not yet indicated.

*Read at the meeting of St. Louis Obst. & Gynaec. Society, Oct. 10, 1907.

By the next day, October 3, the patient's condition had taken a turn for the worse and so the doctor proceeded to empty the uterus that afternoon, the seventeenth week. The doctor tells me the patient was very weak, sensorium cloudy and for that reason hypodermoclysis of 600 cc. normal saline solution, and strychnine hypodermatically, were at once administered.

Then in ether anesthesia he proceeded to empty the uterus at one sitting. After rapid dilation of the cervix the membranes were ruptured with a pair of placental forceps, the fetus extracted piecemeal, and the placenta removed with a large loop curette. While using the curette the doctor suddenly noticed some tissue at the external os, which, upon close examination, proved to be omentum. This was immediately replaced and a strip of gauze introduced into the uterus. Now the patient was hurried to the hospital, a distance of about sixteen blocks. There I saw her for the first time and assisted at the laparotomy.

After opening the abdomen in the median line, we found a tear in the uterine wall on the right anterior aspect, just to the outside of where the peritoneum becomes attached to the uterus and about midway between the attachment of the round ligament and the level of the internal os. The tear was between $\frac{3}{4}$ and 1 inch in length. The gauze that had been introduced into the uterus was protruding through the tear and had raised the anterior layer of the broad ligament. This peritoneal layer also showed a tear, but this was smaller than the one in the uterine wall and the operator was obliged to enlarge the peritoneal opening to get at the uterine wound. There had been very little bleeding. The hole in the uterus was closed with a double layer of catgut sutures and the peritoneal wound by means of a Lembert suture. The uterine wall was very soft and the sutures cut through easily. The abdomen was closed by the customary layer suture method.

The patient was extremely weak. She was given another hypodermoclysis of 600 cc. normal saline solution and heart stimulants hypodermatically, but she remained unconscious and died the next morning.

Sometimes perforation of the uterine wall is produced in spite of the greatest caution in introducing instruments and when no force at all is used. Such cases have been reported by a number of authors. At times the operator encounters a slight resistance which is offered by the peritoneum. This is true especially in regard to the pregnant uterus, but even with the non-pregnant organ it can happen that, during the curettement, the sound or curette is pushed through the uterine wall. In these cases one usually finds the uterus very soft and boggy. As causes of this abnormal softness of the uterus, predisposing to such easy perforation, Fritsch mentions atrophy, anemia, tuberculosis and malignant and benign tumors of the uterus. But even when none of these conditions exists, one occasionally finds the uterine wall very soft and boggy. Chrobak reports a case in which, upon cleaning out an incomplete

abortion, he found muscle fibers firmly adherent to the membranes, and expresses the opinion that in such a case one might very easily perforate the uterus. Halban reports a case in which he extirpated the uterus after perforation and found large dilated veins in its walls, which had made the tissue very soft and spongy.

Some years ago von Guerard and Schulze-Vellinghausen, of Düsseldorf, took up the pathological anatomy of these cases, and claim to have found typical microscopic changes. They examined uteri which were not in a state of puerperal involution. Unfortunately their examinations embraced too few specimens to allow of our deriving definite conclusions from their report. Schulze-Vellinghausen examined two uteri microscopically which had been extirpated following perforation during curettement. He reports as follows: The most striking change in all specimens, and especially in those sections taken from the fundus near the site of perforation, was oedema of the tissue and separation of the individual muscle-bundles. This was less marked in sections further removed from the fundus, and in the cervix he found almost no oedema, but an increase in the amount of fibrous tissue. Besides this he found a change in the vessel walls, a thickening of the muscular layer, the tunica media, also some thickening of the intima or adventitia,—more of the latter (this is called by some authors, sclerosis of the uterine arteries).

He claims this condition of the vessels is responsible for the pathological process.

We all know that in the pregnant or puerperal uterus the consistency of the uterine wall may vary; we have either firm contraction, or relaxation of the muscle. Some authors claim this difference in consistency also exists in the non-pregnant uterus.

There has been quite a difference of opinion between Strassmann and Kossmann about what they term "paralysis of the non-pregnant uterus." With this term, Kossmann designates an extreme relaxation of the uterine wall and an increase in the depth of the uterine cavity. For instance, a uterus whose depth was 7 cm., suddenly measured 9-10 cm. or more. Strassmann does not admit the existence of such a condition, but claims in these instances a perforation has been produced. It seems to me, we can subscribe somewhat to this relaxation theory but of course always within bounds.

In some instances where the sound has penetrated far into the uterus it has found its way into the Fallopian tube. Such cases have been described by Ahlfeld, Flueckinger and Jabreiss. Still, instances of positively proven tube-sounding are rare; many cases described as such were in reality perforations of the uterus, where the sound passed through the wall laterally into the tissue between the layers of the broad ligament.

The most frequently perforated portion of the uterine wall is at the junction between the cervix and body of uterus on the posterior wall.

Injuries of the cervix, due to instrumental dilatation of the cervical canal, are somewhat more frequent than perforation of the body, but lesions of the body wall, caused by Hegar (Hank's) dilators have also been reported. Brouardel reports a case in which a Hegar dilator slipped from the operator's fingers after perforation, and was later found in an abscess pointing above the pubis. Tents employed to dilate the cervix have also caused uterine perforation.

Kuestner reports two cases which demonstrate that perforation of the uterus is often not diagnosticated as such at the time it occurs. These patients had been curetted by some one else, and Kuestner later found omentum in the uterine cavity, which had become adherent there. In another instance Strassmann found scars on a uterus which he claims must be the remains of former perforation, the woman having previously submitted to gynecological examination and treatment.

The greatest care is necessary in all manipulations about the uterus to avoid perforation. One should always ascertain the depth of the uterine cavity as exactly as possible. In dilating the cervix the point of the dilator should be carried very little within the inner os. Pointed instruments should not be used, rather those with blunt, thick ends. In cleaning out an incomplete abortion it is dangerous to use the dressing forceps; rather use a placental forceps; while curettes are to be used as little as possible, and then only broad, dull curettes.

It would carry me beyond the scope of my subject to discuss the several methods of cervix dilatation. The prognosis in cases of perforation is good if the instrument is clean and the uterus not infected.

When perforation has taken place the treatment may be expectant or operative. If expectant, one should introduce a strip of gauze into the uterus, confine the patient to bed and apply an icebag to the lower abdomen. Every case must be decided for itself, i. e., whether to operate or not. Some authors advise operation in every case of perforation, which, according to my opinion, is not correct. Kelly says when the perforation is small and there is little or no bleeding, employ the expectant plan. If the perforation is larger, the hemorrhage more severe, and bowel or omentum prolapsed, operate.

I think the above cited case would have done better without operation, even though there was quite a fair sized hole in the uterine wall and omentum had been prolapsed. When operating one has to decide whether to do so from above or per vagina; whether simply to suture the wound or do a hysterectomy. The mode of attack will depend on the individual operator, the one prefers the abdominal route, the other the vaginal. The abdominal method gives one a better view of the field of operation. When possible, I think, it is best to suture the uterine wound and then close the abdomen in the usual way. Clean cases require no drainage.

The indication for hysterectomy is given by the hemorrhage, the danger of infection, and the nature of the injury. The danger from

hemorrhage alone is not so very great. If the uterus is septic, or if there be uterine tumors present, hysterectomy is to be performed and, in the first instance, with drainage.

Before closing it may be of interest to mention several cases which show what fearful accidents have occurred through uterine perforation. Kelly quotes two, the first was reported by Dr. Mann of Buffalo. He found a hole in the uterus which admitted one finger and the ileum had been torn across. In the second case a young practitioner had, while operating on an incomplete abortion, perforated the uterus with a forceps, drawn down the bowel and cut off 6 feet of small intestine before he recognized what he had in hand. Dr. Rieck of Hamburg, Altona (in *Centrlb. Gyn.* this past summer), reported a pregnancy in the interstitial part of the tube; the sound passed into tube $\frac{3}{4}$ cm. then perforated, causing severe internal hemorrhage.

WILLIAM THOMPSON'S POEM ON SICKNESS.*

By JOSEPH GRINDON, Ph. B., M. D., of St. Louis.

William Thompson, the British poet, is hardly to be reckoned among the Immortals. Taine does not mention him, and the *Encyclopaedia Americana*, while listing twenty-one Thompsons, English and American, who attained distinction in one way or in another, is silent as to William, of that ilk. In his day, however, and for some time after, he was apparently thought worthy of a place among the bards of his land.

He was born about 1712, received Holy Orders in the English church, in which he became celebrated for his piety as well as for his literary attainments, and died in 1766. The poem "Sickness" was first published in 1746, London, 4to, and, says Anderson in a brief biographical notice prefixed to the poems in his collection of British poets, "was very favorably received by the polite and religious world." Thompson's poems were published by private subscription in 1757, and *Sickness* republished separately a short while before the poet's death. The poems appeared in several editions of British Poets after his death. Besides that of R. Anderson, alluded to above (Edin. 1795, vol. 13) there was a collection in forty-eight 16mo. vols. by Thomas Park (London, 1808) and another by A. Chalmers, "Works of the English Poets," published in 1810, in which Thompson's works were included; although they are not contained in Dudley's "Poems."

The least critical eye easily discerns the influence of Milton and of Spenser in our author's productions. They show however little of the genius of their prototypes, and are marred by all the faults of the period. Pietistic preachments, generally lacking the ring of sincerity, are jumbled with forced allusions to Greek mythology which only serve to air the writer's erudition in the classics, while the fulsome praises of noble patrons offend and disgust the modern reader. Nevertheless, Chalmers opines that "The poetical beauties are such as to prove that he had much of the fire and enthusiasm of true genius," while Anderson, speaking of *Sickness*, "his capital production," says, "In this work boldness of personification, energy of language, sublimity of sentiment, pathetic representation, and the most exquisite beauties of poetry, are ennobled with Christian and moral truths."

For our part we will admit that here and there are to be found a few lines of real beauty, and that the work shows much originality in its conception if not in execution. To the medical reader at least, it is not without some interest.

*Read before the St. Louis Medical History Club.

Thompson's most pretentious production, *Sickness*, in five "books," was suggested, he tells us in a note, by his recovery from the small-pox, and was at first designed as a hymn of gratitude to the Almighty. "But the subject being very extensive, and capable of admitting serious reflections on the frail state of humanity, I expatiated further upon it. It cannot be supposed that I should treat upon sickness, in a medicinal, only in a descriptive, a moral and a religious manner. * * * * I have just taken such notice of the progress of the small-pox as may give the reader some small idea of it, without offending his imagination. * * * * I do not remember to have seen any other poem on the same subject to lead me on the way, and therefore it is to be hoped the good-natured reader will the more readily excuse its blemishes."

The first book has the same title, "Sickness," as the entire poem. The introductory invocation and many of the figures later employed are manifestly inspired by the reading of "Paradise Lost." Book first begins:

"Of days with pain acquainted, and of nights
Unconscious of the healing balms of sleep,
That burn in restless agonies away;
Of sickness, and its family of woes,
The fellest enemies of life, I sing,
Horizon'd close in darkness."

After much moralizing on the vanity of earthly pomps and joys, the poet depicts himself wandering among the fields on St. Valentine's day, Ianthe by his side. We will let him continue:

"to my heart I prest
Her spotless sweetness; when (with wonder, hear!)
Though she shone smiling by, the torpid powers
Of heaviness weighed down my beamless eyes
And prest them into night. The dews of death
Hung clammy on my forehead, like the damps
Of midnight sepulchres * * * * *
* * * * * My head is torn
With pangs insufferable, pulsing starts
And pungent aches, grinding through the brain,
To madness hurrying the tormented sense,
And hate of being."

After thus graphically portraying the suddenness of onset of the prodromata, he proceeds:

"New horrors rise. For in my pricking veins
I feel the forky flame: the rapid flood
Of throbbing life, excursive from the laws
Of sober Nature, and harmonious Health
Boils in tumultuary eddies round

Its bursting channels. Parching thirst, anon
 Drinks up the vital maze. * * * * *
 * * * * * O! ye rivers, roll
 Your cooling crystal o'er my burning breast
 For Etna rages here! Ye snows descend;
 Bind me in icy chains, ye northern winds,
 And mitigate the furies of the fire!*

The remainder of the first book is devoted to meditations on the wholesomeness of affliction. The writer does not inform us, however, here or elsewhere, whether Ianthe was the worse for her close contact with the disease.

The Second Book, called "The Palace of Disease" and often recalling Pandemonium, describes how

"Deep in a desert-vale, a palace frowns
 Sublimely mournful,"

Within it, holding her court

"Malignantly delighted, dire Disease
 Surveys the glittering pest, and grimly smiles
 With hellish glee. Beneath, totters her throne
 Of jarring elements; earth, water, fire;
 Where hot and cold and moist and dry maintain
 Unnatural war. Shapeless her frightful form.
 * * * * *
 Her eyes, two comets; and her breath, a storm;
 High in her wither'd arms she wields a rod,
 With adders curl'd and dripping gore; and points
 To the dead walls, besmeared with cursed tales
 Of plagues red-spotted, of blue pestilence,
 Walking in Darkness."

Among those composing her court are

"The knotted Gout,
 The bloated Dropsy, and the racking Stone
 Rolling her eyes in anguish; Lepra foul,
 Strangling Angina, Ephialtic** starts;
 Unnerv'd Paralysis; With moist Catarrhs;
 Pleuritis bending o'er its side, in pain
 Vertigo; murderous Apoplexy * * * * *"

About the throne of Disease, occupying places of honor are

"Six favorite furies, next herself accurst,"

*Here are four lines, but they suggest that Thompson's reading was not limited to his favorites, Milton and Spenser. Shakespeare makes King John, when tortured by poison, say:

"None of you will bid the winter come,
 To thrust his icy fingers in my maw;
 Nor let my Kingdom's rivers take their course
 Through my burn'd bosom: Nor entreat the North
 To make his bleak wings kiss my parched lips
 And comfort me with cold."

**'εφιάλης.

War, Intemperance, and Melancholy, "Britannia's bitter bane," are three of these,

"Fever the fourth: adust as Afric wilds,
Chain'd to a bed of burning brass; her eyes
Like roving meteors blaze, nor ever close
Their wakeful lids: she turns, but turns in vain
Through nights of misery. Attendant Thirst
Grasps hard an empty bowl, and shrivel'd strives
To drench her parched throat. * * * * *

* * * * *

Consumption near, a joyless, meager wight
Panting for breath, and shrinking into shade
Eludes the grasp. * * * * *

* * * * * Scarce her legs
Feebly she drags, with wheezing labor on,
And motion slow. * * * * *

The last, so turpid to the view, affrights
Her neighbor hags. Haply, herself is blind
Or madness would ensue; so bloated black
So loathsome to each sense; the sight or smell,
Such foul corruption on this side the grave;
Variola yclep'd; ragged and rough
Her couch perplex'd with thorns. * * * * *

* * * * *

The poet then gives us his ideas on the etiology of small-pox, in which may be found the theories of the iatro-mechanicians, then current. These theories he not improbably absorbed from that zealous adherent of the school, Dr. John Freind, whom he praises in a later part of the poem. The notion of atoms of definite shape and size originated with Pythagoras and was further elaborated, in its medical bearing, by the Methodists.

"Variola, what art thou? Whence proceeds
This virulence, which all but we escape?
Thou nauseous enemy to human kind:
In man, and man alone, thy mystic seeds,
Quiet, and in their secret windings hid,
Lie unprolific, till infection rouze
Her poisonous particles, of proper size,
Figure, and measure, to exert their power
Of impregnation; atoms subtle, barbed,
Infrangible, and active to destroy;
By geometric or mechanic rules
Yet undiscover'd; quick the leaven runs,
Destructive of the solids, liquids, blood
Of mortal man, and agitates the whole
In general conflagration and misrule."

Thompson then mentions a number of the noted personages of his day who had fallen victims to this disease.

The Third Book, entitled "The Progress of Disease," continues the symptomatology of Variola.

"The forehead roughens to the wondering hand,
Wide o'er the human field, the body, spreads
Contagious war, and lays its beauties waste.
* * * * *

Ah, too, the lustre of the eye is fled!
Heavy and dull, their orbs neglect to roll.
In motionless distortion, stiff and fixed;
Till by the trembling hand of watchful age
(A weeping matron, timorous to affright,
And piously fallacious in her care
Pretending light offensive, and the sun)
Clos'd."

Then follows a very good description of the subjective phenomena of delirium, too long to quote in full. I shall however cull a few passages:

"Though at their usual entrance quite shut out
External forms, forbidden, mount the winds,
Retire to chaos, or with night commix;
Yet, Fancy's mimic work, ten thousand shapes
Antic and wild, rush sweeping o'er my dreams."

Some of his visions are pleasant and peaceful

"gentle and bright
As hermits sleeping in their mossy cells,
Lull'd by the fall of water."

And again

"sudden, black,
And horrible as murderers; or hags
Their lease of years spun out, and bloody bond
Full flashing on their eyes; the gulf, beneath
Maddening with gloomy fires; and Heav'n behind
With all her golden valves for ever clos'd.
Now in Elysium lap'd and lovely scenes,
Where honeysuckle, rose and eglantine
Narcissus, jassmin, pinks, profusely wild
In every scented gale, Arabia breathe,
As blissful Eden fair * * * * *
* * * * *Momental bliss!
For sudden rap't, the midnight howl of wolves
The dragon's yell, the lion's roar, astound
The trembling ear. Ha! down a burning mount
I plunge, deep, deep: Sure Vulcan's shop is here
Hark, how the anvils thunder round the dens
Flammivomous! What? Are these chains to bind
This Skeleton? The Cyclops must be mad:
These bolts of steel, those adamantine links

Demand Typhaeus' strength to burst; Away
 Venus and Mars—beware—In giddy whirls
 I ride the blast, and towering through the storm
 Enjoy the palace of the Moon. The Sun
 Resigns the reins of Phlegon to my hands:
 His mane waves fire: He scorches me to dust:
 Avaunt, thou fiend!—I'll hurl thee down the deep
 Of Heav'n, with bolted thunder, and enwrap't
 With forky lightnings—Now staggering I reel
 By murderers pursued: my faithless feet
 Scarce shift their pace: or down rushing amain,
 I cease to recollect my steps, and roll
 Passive on earth. * * * * *

Now starting from this wilderness of dreams
 I wake from fancied into real woe.
 Pain empties all her vials on my head,
 And steeps me o'er and o'er. Th' evenenom'd shirt
 Of Hercules enwraps my burning limbs
 With dragon's blood: I rave and was like him
 Writhing in agony. Devouring fires
 Eat up the marrow frying in my bones."

After a fervent prayer for patience, which is answered by renewed hope, he acknowledges the help afforded by medical art.

"Ev'n pagan Wisdom bade her sons adore
 As one, the god of physic and the day,
 Fountain of vegetation and of life,
 Apollo, ever blooming, ever young
 And from his art immortal! Thus of yore
 The prime of human race from Heav'n deduc'd
 The bright original of Physic's pow'r:
 And not unjustly deem'd that he who sav'd
 Millions from death, himself should never die."

After dwelling on the complexity of the human body, he asks:

"What art divine shall tune
 To order and refit this shatter'd frame?
 * * * * * who but the race
 Of Paean? Who but physic's saving sons?
 A Ratcliff (1), Frewin, Metcalf, or a Friend? (2)."

(1) John Radcliffe, 1650-1714. (Park, by the way, with the carelessness of statement which characterizes his *Epitome of the History of Medicine*, places this worthy just a century from his true date.) An "eminent, witty and successful" London physician, founder of the Radcliffe Library at Oxford. It was he who said that in his early days he knew of twenty remedies for every disease, but later found twenty diseases for which he did not know one remedy.

(2) John Freind, 1675-1728, who wrote a "History of Physik from the time of Galen to the beginning of the Sixteenth Century." He was a zealous iatro-mechanician and a friend of Mead. He was not only distinguished as a physician, but also as a publicist. He was elected to Parliament and was cast into the Tower by Sir Robert Walpole for speaking (says Baas) against the imprisonment of a Bishop.

Book IV., *The Recovery*, depicts the longing of the fevered sufferer for sleep, which, according to him, he has not enjoyed for "fifteen nights." At last he sinks into unconsciousness, but upon awakening experiences the photophobia consequent upon the conjunctivitis which attends confluent small-pox.

"I thank thee, Sleep! Heav'ns! Is the day restor'd
To my desiring eyes? Their lids, unglew'd,
Admit the long-lost light, now streaming in
Painfully clear! O check the rapid gleam
With shading silk, till the weak visual orb
Stronger and stronger, dares imbibe the sun
Nor watering, twinkles at unfolded day."

In the Fifth Book, entitled "*The Thanksgiving*," he acknowledges the Divine mercy, and ends with a hymn of praise addressed to the Trinity.

This attack of small-pox was not the only illness endured by Thompson, for we find a "*Hymn in Sickness*—written in the great epidemical cold of 1732," evidently a visitation of *la grippe*, in which

"Straining coughs this mortal frame
To dissolution bring."

His leaning toward medical subjects is further shown in a brief poem "*To Dr. Linden, on his Treatise on Chalybeate Waters*."

It must not be supposed, however, that all of Thompson's poetry is tinctured with medical allusions. Some of his shorter productions on more purely poetical subjects are not without a certain grace. You will, I hope, pardon me, if in closing I stray wide of our avowed purpose to quote two verses from a little poem on "*The Happy Life*" wherein the matter is reminiscent of Horace, while the manner is rather that of Kit Marlowe:

"Thrice happy they, who careless laid
Beneath a kind embow'ring shade,
With rosy wreaths their temples crown
In rosy wine their troubles drown.
* * * * *
Begone, ambition, riches, toys,
And splendid cares and guilty joys.
Give me a book, a friend, a glass
And a chaste laughter-loving lass."

MEDICAL AND SURGICAL PROGRESS.

THE ROENTGEN RAY IN PEDIATRICS.

A REVIEW OF RECENT LITERATURE.

By ALFRED FRIEDLANDER, M. D.

1. USE OF X RAY IN STUDY OF DISEASES IN CHILDREN.—George (*Bost. Med. & Surg. Jour.*, March 19, 1908).
2. Fruhoun-Lapeyrade, Thèse de Paris (*Arch. de Med. des Enf.*, June, 1907).
3. STUDY OF EARLY CONDITIONS OF OSTEOMYELITIS BY THE ROENTGEN RAY.—Rotch and George (*Archives of Ped.*, Vol. 24, 1907, p. 481).
4. ZUR ROENTGEN DIAGNOSE DES SÆUGLINGSSKORBUTS.—Klotz (*Monatschr. f. Kinderheilk.*, April, 1908).
5. L'ADENOPATHIE TRACHEO-BRONCHIQUE.—Leroux (*Arch. de Med. des Enf.*, February, 1908).
6. L'ADENOPATHIE TRACHEO-BRONCHIQUE DES NOURRISOUS.—Boujarel (Thèse de Paris, *Arch. de Med. des Enf.*, Dec., 1907).
7. IBID.—Variot et Rist (*Soc. de Pédiatrie*, May 21, 1907).
8. CASE OF LYMPHADENOMA TREATED BY THE X RAY.—Clarke (*British Med. J.*, October 26, 1907).
9. A CASE OF STATUS LYMPHATICUS AND ENLARGED THYMUS SUCCESSFULLY TREATED BY THE X RAY.—Friedlander (*Arch. of Ped.*, July, 1907).
10. DE LA RADIOSCOPIE DANS LA PNEUMONIE DE L'ENFANT.—Weill et Thevenot (*Arch. de Med. des Enf.*, July, 1907).
11. Guinon et Reutsaet (*Arch. de Med. des Enf.*, March, 1908).
12. DIE RADIOLOGISCHE TOPIK INTRAKRANIELLER TUMOREN IN KINDESALTER.—Klotz (*Archiv. f. Kinderheilk.*, Vol. 48, p. 19).
13. RADIOSCOPIE UND ANGEBORENE SYPHILIS.—Thomsen (*Bib. f. Laeger*, 1907, p. 69).

While speaking of the value of the x ray in connection with the exact diagnosis of osseous anomalies, fractures in the neighborhood of joints, and early pulmonary tuberculosis in children, George insists especially upon its importance in connection with tuberculous and non-tuberculous infections of the bones. A certain number of cases of so-called "hip-disease," are shown by the x ray to be acute, subacute, or chronic osteomyelitis. The location of the disease in these cases is inside the joint capsule, yet the symptoms, clinically, are those of hip disease. In these cases the x ray is our most valuable method of diagnosis. It locates the focus of the disease and enables us to decide more easily, whether or not these cases are operable. Fruhoun-Lapeyrade calls at-

tention to the value of the x ray, not only in the diagnosis of coxalgia, but as a means of illustrating, as it were, the progress of the disease, and the result of treatment. The precise therapeutic indications thus offered mean much for the patient. The possibility of very early diagnosis allows the adoption of rational therapy at a time when it is most calculated to have good results. The Roentgen ray has shown the existence of both diffuse and circumscribed forms of the disease.

Rotch and George have made a careful study of a series of cases of osteomyelitis in childhood by means of the x ray. In the early stages of the disease, when the diagnosis is often extremely difficult, the x ray oftentimes affords valuable information. The early bone changes, as seen by radioscopy, consist of thickening and bulging of the periosteum. If, however, the infection is in the marrow, it shows in the radiograph as a clear, definite shadow. At the June, 1908, meeting of the American Medical Association, Rotch read a paper (before the Section on Diseases of Children) on anatomic vs. chronologic age, in which he called attention to the x ray as a factor in determining the chronologic, *i. e.*, developmental, age of children, as opposed to the anatomic, *i. e.*, numerical, age. Recently there has been much discussion relative to chronologic age. In its determination, the x ray is the most important single diagnostic factor.

Klotz, speaking of the Roentgen ray in the diagnosis of infantile scurvy, quotes Fränkel's demand, that a radiograph be taken in every case where there is a suspicion of scurvy. This diagnostic method is of special value in the cases without marked symptoms, where the diagnosis is difficult. The picture in these cases shows a narrowing of the cortical bone area (of the long bones) and a blurring of the finer markings of the spongiosa. In some cases there may be shown a lifting of the periosteum from the bone, as a result of subperiosteal hemorrhages.

As is well known, the French pediatricists have paid special attention to the diagnosis of enlarged bronchial glands. Boujarel, who has studied the condition in the nursling, finds that radioscopy gives valuable diagnostic aid. The shadow of the enlarged glands shows clear at the hilus of the lungs, around the bifurcation of the bronchi. The shadow shows rounded contours. In order that these methods may yield positive results, this author holds that the glands must have attained considerable size. Confirmatory testimony as to the value of radioscopy in the diagnosis of enlarged bronchial glands, is offered by Vanot and Rist, and Leroux. The latter author, while insisting that the x ray should not be used to the exclusion of other diagnostic methods in cases of suspected enlarged bronchial glands, asserts categorically that the x ray will show enlargements of the tracheo-bronchial glands that escape other methods of examination. In a case recently under the observation of the author of this review, the radiogram of the chest showed the distinct shadow while the bronchial glands were enlarged. When the clinical symptoms had disappeared, the lymphocytosis had gone and the child was, to all intents, well, the chest radiogram became absolutely negative. In this case the enlarged bronchial glands were not tubercular, the enlargement being due, as is so often the case, to pertussis. Clarke reports a case of generalized lymphadenoma treated by the x ray. There was marked improvement of the adenitis after a thorough course of treatment. After an interval the glands again enlarged. After x ray treatment there was again a marked reduction in the size of the glands. This cycle was repeated three different times. Death occurred, two years after the last course of treatment, from intercurrent pneumonia. The

autopsy showed an hyperlasia (generalized) of the lymph glands with a chronic fibroid lymphadenoma with nodules in liver and spleen.

Friedlander has reported a typical case of status lymphaticus with enormous enlargement of the thymus. The bronchial glands were very decidedly enlarged. In this case treatment with the x ray brought about a very rapid and very decided reduction in the size of thymus, with correlate disappearance of all the symptoms of thymic asthma, which had threatened the life of the child. The subsequent development of the child (it is now over four years old) has been normal in every respect. In hitherto unpublished communications to the author, Drs. Forchheimer, of Cincinnati, and Myers, of Milwaukee, have reported similar good results in cases of status lymphaticus with enlarged thymus, as a result of treatment with the x ray.

The value of the Roentgen ray in the early diagnosis of pulmonary tuberculosis in childhood has already been alluded to. Various authors have added confirmatory testimony in this regard. Weill and Thevenot call attention to the value of radioscropy in the diagnosis of obscure pneumonia in children. They find that true pneumonia with exudate gives a definite shadow. The parallelism between the radiogram and physical signs is distinct. Certain cases of bronchiopneumonia, clinically not distinct, do not give a clear radiographic shadow. In the cases of so-called central pneumonia (certainly rare according to the authors), the x ray often affords valuable diagnostic aid. Guinon and Rentsaet report an interesting case of Hirschsprung's disease (congenital dilatation of the colon), where the tentative diagnosis was confirmed by passing into the child's rectum a large catheter filled with a bismuth emulsion, and then taking a radiogram of the abdomen. It may be noted, in passing, that abdominal radioscropy in childhood is just becoming recognized as a valuable diagnostic aid.

Discussing the diagnostic value of the x ray with reference to brain tumors in childhood, Klotz concludes that the ray may be of distinct diagnostic value in that it may help to localize the position of the tumor, and so help to determine the decision as to the possibility of successful surgical interference. Again as a method of confirmation and control of the diagnosis itself, the ray may prove of value and may prove an aid to the operation itself in some cases. It is, however, to be remembered, that just during the period of childhood the interpretation of the cranial radiogram may be especially difficult. Thomsen has reported cases showing that the x ray may be of aid in the diagnosis of hereditary syphilis. Very often a syphilitic osteochondritis was discovered, by the x ray, in children who showed no other signs or symptoms of congenital syphilis, and in whom the diagnosis would thus have been almost, if not quite, impossible without the use of the x ray.

NON OPERATIVE (MEDICAL) TREATMENT OF CATARACT.

A REVIEW OF RECENT LITERATURE.

By JOHN GREEN, JR., M. D.

1. MEDICAL TREATMENT OF SENILE CATARACTS.—Verderau (*Archivos de Oftalmologia Hispano-Americanos*, July, 1906).
2. THE TREATMENT OF INCIPIENT SENILE CATARACT BY SUBCONJUNCTIVAL INJECTIONS OF POTASSIUM IODIDE.—Pflugk (*Wien. Med. Presse*, March 17, 1907).
3. SUBCONJUNCTIVAL INJECTIONS OF POTASSIUM IODIDE IN THE TREATMENT OF CATARACT.—Menacho (*Archivos de Oftalmologia*, June, 1906).
4. CONTRIBUTION TO THE TREATMENT OF CATARACT BY SUBCONJUNCTIVAL INJECTION OF POTASSIUM IODIDE.—Pons y Marques (*Archivos de Oftalmologia, Hispano-Americanos*, December, 1906).
5. NON-SURGICAL TREATMENT OF LAMELLAR AND NUCLEAR CATARACT.—E. J. Bernstein (*Ophthalmology*, July, 1907).
6. DOES THE OPACITY OF INCIPIENT CATARACT EVER REGAIN TRANSPARENCY?—Connor (*Jour. A. M. A.*, July 6th, 1907).

Five years ago, were one to venture the assertion that any benefit whatsoever could accrue from the medical treatment of the cataractous lens he would very promptly have been convicted of ophthalmologic heresy and relegated to the ranks of charlatans. To-day those who believe in the invariable inefficacy of non-surgical methods in cataract are probably not aware of the suggestive and occasional surprisingly favorable results obtained by several observers who have devoted especial attention to this hitherto neglected field. While it is undeniable that the disappointments following present medical methods may be many, the possibility of success, even in a small minority of cases, should induce the unbiassed observer to maintain an openness of mind with respect to this highly important question.

In 1902, before the French Ophthalmological Society, Badal recommended the local application of potassium iodide in aqueous solution in the treatment of cataract. Two years later, Verderau reported encouraging results following the subconjunctival injection of a solution of potassium iodide. He injected subconjunctivally, at irregular intervals, a solution containing 2½% of potassium iodide, to which 1% acoin and 2% cocaine hydrochlorate had been added. In 21 cases so treated vision was improved in all, rising in some cases from 1-10 to 2-3. The number of injections varied from five to fourteen.

Equally encouraging results have been obtained by v. Pflugk who declares that this method of treatment improves vision and renders the striae less opaque. He uses a solution of potassium iodide of the following formula: KI 0.2; sodium chloride 0.2; aq. dest. 10.0; to this is added one drop of a one per cent. cocain solution for 1 gm. of potassium iodide solution, and of this mixture one-half to one syringeful is injected at each sitting. In the intervals between the injections dionin powder is insufflated into the conjunctival sack. After employing this treatment two weeks, a rest of two weeks is taken, during which time only a solution of dionin is instilled into the conjunctival sack. It should

be remarked that the conjunction of the two methods—instillation of dionin with the subconjunctival use of potassium iodide—vitiates any positive conclusion which might be drawn from the use of either alone.

On the other side of the ledger should be recorded the views of Menacho and Pons Y. Marques. The former summarizes his results in three cases as follows: Case I. R. eye cortical cataract with one large and several small equatorial striæ. L. eye, beginning cortical cataract. R. eye only injected. Eighteen months later it appeared that the larger stria was somewhat narrower, but new striæ had begun in the equatorial region. The right cataract had advanced at the same rate as the left. Case II showed an increase in the cataractous process indicated by the increase in myopia and opacification, and decrease in visual acuity. Case III. Cataract due to chorio-retinitis. No improvement following injections. Case IV. Incipient posterior lenticular cataract. Slow advancement noted after 35 injections.

Pons y Marques presents three observations. Case I. Diffuse and incomplete opacity of both lenses. After 12 injections the treatment was abandoned as vision had diminished. Case II. R. eye, lenticular cataract, posterior iritic synechia. L. eye, phthisis bulbi. Noticeable improvement in the vision of the R. eye after seven injections. Case III. Lenticular cataract, both. Slight improvement in vision of R. eye after the fifth injection.

Both Menacho and Marques dwell upon the extreme painfulness of the procedure. Menacho also notes inflammatory adhesions of the conjunctiva following these injections.

E. J. Bernstein has experimented with dionin injected subconjunctivally in one case of lamellar and two cases of nuclear cataract. His first case, a boy of 6, with lamellar cataract, R. eye 20-200 L. eye 10-200. Ophthalmoscopically, the right disk could be faintly discerned, while on the left side no fundus details were visible. Once a week, two drops of a one-half per cent. solution of dionin was injected deeply under Tenon's capsule. He was given also a solution containing 1 per cent. atropin sulphate and 5 per cent. dionin to be dropped into the eye once daily. Under this treatment vision improved in the right eye to 20-50, with — 1.5 and in the L. eye to 20-100 with — 2. Ophthalmoscopically the central portion of each lens had cleared up remarkably so that the fundus was visible in both eyes.

Case II. Incipient nuclear cataract, in a woman of 72. R. eye V 20-60, L. eye counts fingers at 2 m. Subconjunctival injections of 2 per cent. dionin in 2 per cent. glycerin solution were instituted each week. Eight months later R. eye with — 2.5 sph. 15-30. L. eye with — 2.5 V 15-50. With — 1.5 reads Sn. 0.5 "with as great ease as ever in her life." Case III. Female, age 70, with nuclear cataract in each eye. R. with — 3. V 15-40 L. eye with — 3. 15-50. Fundus normal. Weekly subconjunctival injections of two per cent. dionin in glycerin and water improved vision in the R. eye to 15-30 and L. eye to 15-40.

Despite the improvement in vision in these two cases the ophthalmoscope showed little or no change in the appearance of the lenses.

In this connection the possibility of the spontaneous disappearance of the striæ of incipient cataract must not be forgotten. This question has recently been dealt with by Connor who reports 147 cases of partial or complete spontaneous clearing, in the practice of 51 observers.

It would appear that the results so far obtained in the non-surgical management of cataract are suggestive rather than conclusive. They are sufficiently encouraging to warrant further experimentation along these and similar lines.

CONGENITAL DISLOCATION OF THE HIP.

A REVIEW OF RECENT LITERATURE.

By NATHANIEL ALLISON, M. D.

1. THE VARIETIES OF CONGENITAL HIP DISLOCATION.—Froelich (Nancy), French Surg. Cong. Trans. Rev. d'Ortho., March, 1908.
2. NON-OPERATIVE TREATMENT OF CONGENITAL HIP DISLOCATIONS IN ADULT SUBJECTS.—P. Redard, (Paris), French Surg. Cong. Trans. Rev. d'Ortho., March, 1908.
3. THE RATIONAL TREATMENT OF CONGENITAL HIP DISLOCATION.—P. Le Damany, (Rennes), French Surg. Cong. Trans., Rev. d'Ortho., March, 1908.
4. THE RESULTS OF 50 OPERATIONS FOR CONGENITAL DISLOCATION OF THE HIP.—Judet, (Paris), French Surg. Trans., Rev. d'Ortho., March, 1908.
5. THE TREATMENT OF CONGENITAL DISLOCATION OF THE HIP BY MANUAL REDUCTION.—Derscheid-Delcourt, La Pathologie Infantile, 1908, 1, p. 1.
6. OBSERVATIONS AND PERSONAL STATISTICS ON THE MANUAL REDUCTION OF CONGENITAL DISLOCATION OF THE HIP.—Secchi, (Milan), Trans. 4th Cong. Italian Ortho. Surg., Rev. d'Ortho., May, 1908.
7. CONGENITAL DISLOCATION OF THE HIP IN A MAN OF 54 YEARS. NO TREATMENT. A GOOD NEW JOINT FORMED.—Chaput, Rev. d'Ortho., March, 1908.
8. CONGENITAL DISLOCATION OF THE HIP. ITS CAUSES, MECHANISM AND ANTHROPOLOGICAL SIGNIFICANCE.—Le Damany, Zeit. für Orthop. Chir., xxi B. 1-3 H.

Froelich divides the cases of Congenital Dislocation of the hip into three groups: (1) Traumatic luxations with normal joint cavities; (2) luxations due to early malformation of the joints; (3) luxations, pathological and acquired. In the first group we find the cases that are produced during intra-uterine life by pressure of the uterus, coupled with scant amniotic fluid, or by an extreme adduction of the limbs joined with the muscular action of the pelvi-crurale muscles. A sharp traumatism from without may be transmitted through the uterus and cause a luxation of the femur. Finally the dislocation may be produced at the time of labor. The great majority of the cases are in the second group, and here there is some vice in the embryo that causes a lack of development at the acetabulum, making it impossible or extremely difficult to replace and retain the femoral head. In the last group of cases, we find those that develop in the first month of life, following an arthritis of the hip joint, such as osteomyelitis. For the first group of cases, a complete cure is the rule. In the other two groups, cure is less frequent, improvements are quite numerous, but they have those that are unavoidable failures. These observations are based on 74 cases; 23 in the first group; 51 in the second; 12 in the third. Anatomic, radiographic and clinical study incline the author to these views. Redard is possessed of the following

views in the treatment of cases that have passed their 12th year. He does not advise reduction on account of the great difficulty attending and following the operation, but prefers to establish a pseudo-reduction, by placing the head of the femur behind, or better, in front and below the anterior iliac spine; this is called by Lorenz "a transposition." It is here held in plaster for 3 months. The results thus obtained are diminution of pain and improvement of gait. He prefers this to open operation. Le Damany recommends an apparatus that gives much better results in his opinion than the long confinement in plaster recommended by Lorenz. This consists of a brace specially made that will prevent relaxation, by supplying immobilization, but which can be removed and thus allow manipulation to overcome the defective cotyloid cavity and the tortion of the femur. Judet reports the following results obtained in 50 cases since 1902. In the beginning, he used the three stage method described by Brun and obtained in 19 cases, 11 anterior transpositions, 7 anatomic reductions and one failure. By his own method in a series of 18 cases, he obtained 17 reductions and one transposition. These cases, however, were between the ages of 3 and 6 years, and presented shortening of limb from 3 to 4 cm.—very favorable cases. They were completely cured by reduction and confinement in plaster for 5 months, 90 degrees flexion and abduction, 60 degrees. After the removal of the spica, he allowed the limb to return, little by little, to the normal position, by the action of the hip muscles, using massage and gentle manipulation. After 1 to 2 months in bed, the children began to walk. This is the best method for ordinary single or double dislocations. In children, six, ten or twelve years of age, it is necessary to apply two plasters; the first holds the limb in 90 degrees abduction and flexion and outward rotation; the second, in 45 degrees abduction and internal rotation. Where children under 3 years are treated, it is often necessary to change the plaster in order to maintain reduction. Derscheid and Delcourt have got together a summary of the knowledge of bloodless reduction of this deformity, and report six cases which show its complete success as a surgical method.

Chaput reports a case of single dislocation in a man of 54 years who came under his observation for trouble with his shoulder joint. He had limped since childhood and had pain due to the marked shortening of the right lower extremity. The trochanter was high above Nelaton's line but did not make any excursion, difficulty was entirely due to shortening and was easily corrected with a heightened shoe. A radiogram showed the normal acetabulum very much undeveloped. Above this a new joint cavity, deep and sufficient to retain the femoral head, had formed. No treatment had ever been instituted.

Secchi, after bringing up the old question of Italian priority for the bloodless method of reduction, shows what he considers to be the physiological reasons for the replacement being permanent after the bloodless reduction. He disagrees with Lorenz on the question of the head of the femur digging out the acetabulum, and consequently believes that allowing the patient to walk may be harmful; certainly could do no good. He adds to the treatment a stage called "functional mobilization" which consists of active movements, electricity and massage. He reports 163 cases; 75 single; 44 bilateral or 119 patients, ranging from 17 months to 14 years of age; 80 replacements; 32 transpositions; 5 luxations; 11 failures to reduce; 1 fracture of femur; 5 unknown results. Complete treatment, 7 to 9 months. Radiographs should be taken from time to time during the treatment.

Le Damany has written a most interesting article on the mechanism of congenital dislocation of the hip. He has considered the causes from the standpoint of embryology and anthropology, concluding that the assumption by man of the erect position is only possible by paying a certain price in skeletal deformities. These deformities, he clearly shows to be a distortion of the femur and a distortion of the lower spine, the latter making the sacro-pelvic angle greater. These deformities being habitual to man, play about the hip joint as a centre which is a joint in man that has certain faults in all normal new-born individuals. These faults, he shows conclusively, to be more evident in the higher races than in the lower, a fact which corresponds to the greater frequency of congenital hip dislocation in the white race. His article takes up most carefully the physiology and anatomy of the hip, and shows conclusively that the etiology of the congenital hip dislocation is closely associated with the assumption of the upright position. He makes a therapeutic application of this knowledge, suggesting that the treatment should undertake a correction of distortions which have become normal to the human skeleton.

THE SERUM DIAGNOSIS OF SYPHILIS IN CASES OF TABES AND DEMENTIA PARALYTICA.

By SIDNEY I. SCHWAB, M. D.

1. EINE SERODIAGNOSTISCHE REACTION BEI SYPHILIS.—(*Deut. Med. Woch.*, 1906, No. 19).
2. UEBER DAS VORHANDENSEIN SYPHILITISCHER ANTISTOFFE IN DER CEREBRO-SPINALFLUESSIGKEIT VON PARALYTIKERN.—(*Deut. Med. Woch.*, 1906, No. 44).
3. LES ANTICORPS SYPHILITIQUES DANS LE LIQUID CEPHALO-RACHIDIEN DES PARALYTIQUES GENERAUX.—(*Annal. de l'Inst. Pasteur*, 1907, Vol. XXI).
4. EXPERIMENTELLER BEITRAG ZUR WASSERMANN'SCHEN SERUM-DIAGNOSTIK BEI LUES.—(*Berl. Klin. Woch.*, 1907, No. 5).
5. UEBER DEN NACHWEIS SYPHILITISCHER ANTIKÖRPER IM LIQUOR CEREBRO-SPINALIS VON PARALYTIKERN NACH DEM WASSERMANN-PLAUTSCHEM VERFAHREN DER KOMPLIMENTABLENKUNG.—(*Virchow's Arch.*, 1907, p. 166-177).
6. UEBER KOMPLIMENTBINDUNGSVERSUCH BEI INFECTIÖSEN UND POST-INFECTIÖSEN (Tabes Dorsalis) ERKRANKUNGEN.—(*Duet. Med. Woch.*, 1907, No. 30).
7. LA SERO-REACTION DE LA SYPHILIS ET DE LA PARALYSIS GENERALE.—(*Compt. rend. d. l'Societ. de Biologie de Paris*, 1908, No. 8).
8. ZUR THEORIE UND PRAXIS DER SERUMDIAGNOSE DER SYPHILIS.—(*Berl. Klin. Woch.*, 1908, No. 10).
9. RIV. SPER. DI FREN., 1908, Vol. 34 i-ii.
10. ERFAHRUNGEN MIT DER SERODIGNOSTIK DER SYPHILIS.—(*Berl. Klin. Woch.*, 1908, No. 6).

One of the most interesting questions in the development of the knowledge concerning tabes and paresis, has been the role of syphilis in the causation of the two diseases. The method used in the attempt to solve this question was, for a long time, largely centered in the analysis of statistics which had to do with the history of past infection and the evidence of the existence of syphilis coincident with the symptoms of the disease. Though, in a measure, the use of the statistical method had pretty generally solved the question relative to the importance of syphilis as the chief etiological factor; yet the question would always be a matter of discussion until a more perfect method of proof was devised. This proof must be free from the defects which pertain to all statistical methods, the basis of which is not capable of actual demonstration. The histories of past infections are naturally not susceptible of any exact proof. With the elaboration of a serum reaction specific to syphilis and nothing else, and the use of this in the examination of the spinal fluid of syphilitics, the way was naturally opened for a more exact approach to the other question, that of the syphilitic origin of the two diseases. With the publication by Wassermann, Neisser and Bruck, in 1906, of a new method and of its utilization in the examination of the cerebrospinal fluid of dementia paralytica in the

same year, the whole question enters upon a new phase. An analysis of the considerable literature which has arisen since then might prove of interest both in regard to the facts at issue and in regard to the method and the development of scientific thought when applied to so old a problem as this.

For the diagnosis of syphilis the method of complement fixation was utilized (Wassermann, Neisser, Bruck). The basis of this method may be stated briefly as follows: The blood serum of monkeys previously treated with the syphilitic material of man or monkeys, is mixed with the extract from the organs of hereditarily affected feti or of that of the syphilitically infected organs. Haemolysis does not take place. This phenomenon seemed to prove that in the monkey's immune serum there were antibodies against the specific syphilitic substance, and that in the extract itself was contained the antigens. Antigens are all substances, which when injected into animals, are capable of producing antibodies. The specificity of this reaction followed from the fact that, first, immune serum reacted only with extracts of syphilitic organs, and not with that of normal organs; two, normal monkey serum does not effect syphilitic organ extracts; three, serum of monkeys which has been treated not with syphilitic but with normal human material react neither with syphilitic or normal extract. As a result of this investigation and the conclusion arrived at, these authors believed that it was possible in the living to determine whether there was in the fluid of the body, such as the spinal fluid, specific antibodies active against the luetic organism; and further, whether in a certain organ there was contained syphilitic substances. The first practical application of this theory was made by these same authors. (2.) The spinal fluid of forty-one cases of dementia paralytica was treated in this way. It was found that thirty-two showed a definite inhibition of haemolysis. This result was controlled by the examination of nineteen spinal fluids of patients who did not have the disease. There was no inhibition of haemolysis observed in this series. The authors conclude from this that in the majority of cases of dementia paralytica the spinal fluid contains antibodies, and that such patients either have had syphilis, or at present have it. An interesting feature of these early statistics is that they correspond somewhat roughly, perhaps, with the results of the statistical studies which were formerly made to settle the same point. In spite of this apparent proof of the connection in an etiological way, between syphilis and dementia paralytica, the authors did not draw any final conclusions. Their studies now were concerned with the investigation of the reaction in the blood serum of syphilitics and the study of the syphilitic content of the fluids of the body. The first corroborative work in this connection was an investigation by Marie and Levaditi. (3.) They studied the spinal fluids of thirty-nine paralytics, and found in seventy-three per cent. of them positive reactions. They divided their material into three sections, the first included uncertain cases, so-called pseudoparalysis, in which there was only ten per cent. positive results. In the second class were beginning cases, seventy-seven per cent. was positive; in the third division were advanced cases; in twenty cases there was ninety-five per cent. positive results. From this the authors conclude that there is a relation between the severity of the case and the antibody content.

They express themselves somewhat skeptically about the practical value of the method, because in very early cases the results are not constant. Of course, their objection as a means of diagnosis may be sustained, but the real value of this reaction is not, and never can be,

its diagnostic utility but in its proof of the syphilitic origin of tabes and dementia paralytica.

Schutze (4) examined the spinal fluid of twelve cases of tabes. In four cases in which the history gave no evidence of syphilis, the reaction was negative. In seven in which there was a history of syphilis, the reaction was positive. Morgenroth and Stertz (5) found in eight cases of dementia paralytica a positive reaction. In eight cases of other diseases, in which there was no connection with syphilis, the reaction was negative. Citron (6) examined eighty patients with a somewhat variable result, and draws the interesting conclusion that the more extensively the patient is treated with mercury, the less the antibody content in the serum is. The spinal fluid of paralytics is richer in antibody content, and this fact is, in a sense, pathognomic of the disease. A number of investigators reported varying results. It would be tedious to collect them in a statistical report. The general conclusion seems to have been that in a great majority of spinal fluids examined in cases of tabes and dementia paralytica, the reaction was positive. Lavaditi and Yamanouchi (7), among others, began a series of observations which seemed to tend to the conclusion that the reaction was in no sense a specific one, but that it could be produced by various chemical substances. Fleischman (8), for instance, found that alcoholic extract from a normal liver could be used in place of the leptic extracts. Pighini (9) found that the neutralizing substances in all cases is cholesterin, which occurs free in the central nervous system.

Whatever the explanation of the reaction may be found to be, the fact remains that in its constant objectivity, will be its most valuable quality. In some of the investigations, notably that of Michaelis and Lesser (10), it was found that the spinal fluid of patients with hereditary lues, gave a more constant and a stronger reaction than in other cases. The importance of this finding, if it will be substantiated, is easily appreciated, especially in these doubtful cases of early developing dementia paralytica in children.

If the work on this subject be followed, it will be found that the clinical side of the reaction has well nigh been lost sight of. It has now become a matter of chemical investigation. We are in a position, perhaps, at the present time, to come to some general conclusions of the value of this procedure in a practical clinical sense. It interests the clinician less to know the exact mechanism of the reaction than whether it is constant and whether its procedure is so complex that its use is possible only in highly developed laboratories or in the hands of those with especial skill.

The constancy of the reaction has been now established by so large a number of cases that there is no longer any doubt of its value in this sense. That we have in the Wasserman reaction a means of diagnosing the existence of syphilis or its past infection, is assured. That it is found positive in about eighty to ninety per cent. of all dementia paralytics, and in almost as large a percentage of tabetics, shows conclusively that these two diseases have a very close, if not direct, connection with syphilis. The reaction can not be said to prove any more than this, at the present time. How close this connection is, and whether the relationship is a causal one or not, remains to be proven. That some eighty per cent. of all individuals who have these diseases give a positive reaction, and only a small percentage of individuals with diseases that have no presumable relation with syphilis, give a positive reaction, are two sets of facts that are presumptive of the etiological relationship of

syphilis and tabes and dementia paralytica. As a diagnostic aid, however, the reaction can not be said to have so far any great value. The means of making a positive clinical diagnosis in the two diseases are now so well developed that there is no need to make use of so complicated a procedure. The early cases, where there is often a question of diagnosis, are just the ones in which the Wasserman reaction is most uncertain. Outside of the question of its scientific value, with which the present conclusions have nothing to do, it can be said that by means of this reaction there seems to be a prospect of settling once for all the question of the relation between syphilis and dementia paralytica and tabes. If this follows there will be opened, no doubt, a wide field for further investigation in regard to the general questions of the etiology in some of the other organic nervous diseases. What is needed now more than anything else is a further simplification of this reaction, so that it can be used in so large a material and in the hands of so many different men that no doubt could be attached to its reliability.

This short resume of the literature on the subject makes no pretense to completeness; the best referat on the subject is that by Kurt Meyer, published in the *Folia Neuro-Biologica*, No. 5. In this referat there are quoted some sixty papers. The indebtedness to this paper is here acknowledged.

NEW DRUGS FOR THE TREATMENT OF PNEUMONIA.

REVIEW OF THE RECENT LITERATURE.

By WILLIAM ENGELBACH, M. D.

1. Forgennin—(*Merck's Annual Reports*, 1906, p. 8).
2. Dunger—(*Münch. med. Woch.*, 1907, No. 36, p. 1709).
3. Chantemesse—(*Klinisch-therapeutische Woch.*, 1907, No. 25, p. 663).
4. Runck—(*Münch. med. Woch.*, 1907, No. 15).
5. Netter—(*Klinisch-therapeutische Woch.*, 1907, p. 428).
(*Münch. med. Woch.*, 1907, p. 1108).
(*Journal des praticiens*, 1907, No. 20).
(*Revue internat. de medecine et de chir.*, 1907, No. 11).
6. Stark—(*Lancet*, 1907, No. 4373, p. 1710).
7. Brunton—(*Brit. Med. Jour.*, 1907, No. 2411, p. 616).
8. Scales—(*New Orleans Med. and Surg. Jour.*, 1907, Sept.).
(*Revue de therap.*, 1907, No. 20, p. 717).
9. Weissman—(*Therapeutische Monatshefte*, 1907, No. 5, p. 235).
10. Etienne—(*Revue medicale de l'est*, 1907, 1. September).
11. Cortezo, Espina, und Sanudo—(*Revista de medicina y cirugia*, 1907, May and June).
12. Deutschmann—(*Münch. med. Woch.*, 1907, No. 9, p. 921).
(*Deutsche med. Woch.*, 1908, No. 4, p. 172).
13. Deneke—(*Deutsche med. Woch.*, 1908, No. 4, p. 172).
14. Blanck—(*Berliner tierärztliche Wochenschrift*, 1907, No. 45, p. 800).
15. Wolff—(*Tierärztliche Rundschau*, 1907, No. 48).
16. Knauth—(*Merck's Annual Reports*, 1905, p. 195).
17. Passler—(*ibidem*, 1904, p. 179).
18. Tauber—(*ibidem*, 1906, p. 253).
19. Schaffer—(*Der praktische Arzt*, 1907, No. 1 and 2).

So far Forgennin (1) (tetramethyl-ammonium formate) has played a subordinate in therapeutics. Piccinini's communications on this subject show that in animals it first excites and then paralyses the cardiovascular system. The lethal dose is 0.01 grm. (gr. 1-6) per kilo for rabbits, 0.01—0.02 grm. (gr. 1-6—1-3) for dogs, injected subcutaneously. Torchio, Deroto and Ascoli found that in man forgennin showed in immediate effect in infective diseases, such as pneumonia, in collapse. The action is said to resemble that of digitalis, but this must not be taken to mean that the preparation can replace digitalis. It is perhaps especially indicated in cases of general infection, and in nervous heart troubles. The authors state that it is a useful remedy for the reason that it raises the arterial tension without increasing the frequency of the pulse. A single dose, subcutaneously, amounts to 0.01—0.02 grm. (gr. 1-6—1-3) the daily dose to 0.03—0.04 grm. (gr. ½—2-3). Special interest attaches to the results of Dunger (2) in his investigation into the behavior of leucocytes after intravenous injections of collargol, for they are not without some clinical significance. As the earliest phenomenon

to follow a silver injection, the author found the leucocytes to be immediately reduced by some 50 per cent. and this was followed, after 1-2 hours, by a varying degree of leucocytosis. This rose by 130—150 per cent., occasionally even to 260 per cent. of its original value, to which it reverted after 20-24 hours. The decrease of leucocytes after the injection is explained by a disturbance of part of the neutrophils, the increase which follows by over-compensation for this defect by the bone marrow, in accordance with Weigert's law. As regards the clinical significance of these phenomena, Dunger ascribes to the collargol leucocytosis the same benefits as are derived from artificial leucocytosis brought about by other drugs, such as nuclein, antipyrine, etc.; thus micro-organisms are destroyed by phagocytosis, and inorganic constituents, such as grains of silver, are expelled from the blood stream. But of greater importance is the increased stimulus to the formation of immune bodies due to the stimulation of the bone marrow. For the solution and absorption of inflammatory exudations, however, we are concerned with the liberation of the ferments contained in the leucocytes. For, as Dunger states, in the rapid process of disintegration which takes place among the leucocytes, not only fibrin ferment, but also proteolytic ferments appear. In favor of this view are the good results of collargol treatment in pneumonia, results which have been amplified by the communications of Capitan. In cases of pneumonia in which this author was unable to give intravenous injections, he had good results with intramuscular ones. Every day he gave several 2 c.c. injections of the 2 per cent. solution, viz., 6 on the first day, 4 on the second, 3 on the third, and 2 on the fourth. This method is said to be simple and efficacious. From a most interesting work by Chantemesse (3) it appears that sodium nucleinate has the power of producing hyperleucocytosis to a higher degree than collargol; it acts more powerfully than the latter. This property makes nucleinic acid a remedy of value in the treatment of erysipelas, pneumonia, and typhoid peritonitis. Its power of increasing the resistance of the organism has been convincingly demonstrated by Chantemesse in a series of cases.

The blandness and harmlessness of bromural is well shown, in contrast with sleeping remedies with definite narcotic action, by the experiments instituted by Runck (4) on children and infants suffering from restlessness or insomnia due to pneumonia. Doses of $\frac{1}{4}$ or 1-3 of a 0.3 gm. (gr. 5) tablet could be given 2 or 3 times a day without producing any disturbance of the stomach, or of the organs of excretion. In many cases the preparation was used with good results in children suffering from restlessness or cramps, after other remedies had failed, and when there was good reason for refraining from giving a narcotic.

Calcium chloride, as well as other salts of calcium, such as calcium lactophosphate, has been shown by Netter, (5) J. Stark (6) and L. Brunton (7) to be a valuable cardiac tonic in pneumonia. The dose is 0.3—0.6 gm. (gr. 5—10) every $\frac{1}{4}$ of an hour. It is given in aqueous solution, with the addition of a little saccharine if necessary to cover the unpleasant taste. The action of the calcium salt upon the heart is less striking than that of strychnine; the effect appears far more slowly. Brunton found it of great use also in heart disease with threatened weakness of the left ventricle. As regards the endermatic use of guaiacol in pneumonia and similar diseases, J. Scales (8) obtained very satisfactory results, even in children. He considers the preparation not only safe but efficacious, for in a number of cases of pneumonia and bronchitis he found it of excellent service—even in apparently hopeless cases of bronchopneumonia. He recommends it, particularly because

of its power of reducing the temperature, in oily solution which is rubbed upon the chest in quantities of 10—30 drops of guaiacol according to the child's age. In pneumonia, Weissman (9) also observed that treatment by guaiacol inunction had the effect of making the disease take a very mild course, and disappear in 4 days. Etienne (10) used colloidal silver, platinum and palladium in isotonic solution in pneumonia and bronchopneumonia. He always observed a reduction of temperature, but the metal quickly lost its action, as it is probably altered in the organism, combining with other substances; hence the injections require to be repeated at suitable intervals. In any case the results are said to be far better than those obtained with argentum colloids. Even large doses are well tolerated without unpleasant secondary actions or local reaction. In agreement with these results are the experiences of Cortezo (11), Espina and Sanudo in this treatment of pneumonia. When failure occurs it is attributed by Triboulet to the fact of the metallic brines being given too early or too late. In his opinion it is not permissible to attempt to suppress the fever of pneumonia, and still less of typhoid or scarlet fever, but the metal should rather be given during the crisis when it is able to manifest its action completely, and complications are prevented. The only correct method of giving it is stated by the author to be the intravenous application. Five c.c. may be regarded as the initial dose; this may be injected every day or every second day. Children are given half or less. The metallic brines are not suited for internal use; they are of little use as lotions though more efficacious by inunction. Vivien in his dissertation, described a large number of cases in which he has tried it. A new universal serum, that has still to earn recognition, for it has not sufficient scientific basis, is prepared by Deutschmann (12) by a special method. For this purpose increasing doses of yeast are introduced by mouth into an animal's body, and these are thought by the author to lead to the accumulation in the animal's blood of protective or defensive substances. The serum obtained from such blood gives the human organism increased power of resistance in the battle against pneumococci, staphylococci, streptococci, etc., or their toxins. Injected intramuscularly, it is said to improve the general condition of the patients, to reduce the febrile temperature, while it is reported to be perfectly harmless. For adult doses of 3-4 c.c. are used, for children 0.75—1 c.c.; these may be given subcutaneously or intramuscularly. Deutschmann considers the serum to be indicated in pneumonia, septic and pyemic infection, erysipelas, influenza, acute tonsillitis, severely infected wounds of the eye, hypopyon keratitis, relapsing iritis, irido-cyclitis, sympathetic inflammation and in tuberculosis. Deneke (13) tested the serum in 32 cases of croupous pneumonia, and came to the conclusion that its curative action was not proved. Blanck (14) and Wolff (15), however, obtained satisfactory results with the serum in distemper in dogs. The successful results of Knauth (16), Passler (17) and Tauber (18) in the specific treatment of croupous pneumonia with Romers pneumococcic serum is further confirmed in a work by Schaffer (19). In a series of cases this author obtained most remarkable results. Soon after the injection of 10 c.c. of serum he observed a definite critical fall of temperature with sweating. In only one case was it necessary to repeat the injection. His success with the serum treatment leads him to regard its specific action as proved. Less favorable results have been obtained by others, but he attributes this to the fact that pneumococci obtained from different sources behave differently, and that all are not cases of diplococcus pneumonia. He accentuated the use of this serum early in every case even in those whose course indicated a benign infection.

DIAGNOSTIC AND THERAPEUTIC NOTES.

TREATMENT OF ARTHRITIS BLENNORRHOICA.—In the surgical clinic of the University at Kiel, every case of arthritis blennorrhoea has been treated, for the past four years, with Bier's hyperaemia. Most often surgical interference was not necessary and the results as to function were very good. Other advantages of the Bier's treatment are, the relief of pain, the simplicity and inexpensiveness of the treatment, the possibility of applying massage and passive and active movements at an early date, so that inactivity, atrophy and ankylosis may be prevented, and, finally, the shorter duration of treatment and better obtained results than by the older methods. (Alfred Mathies, Inaug. Dissert. Kiel, 1907.)

TREATMENT OF OPHTHALMO-BLENNORRHOEA.—(*Münch. med. Wochenschr.*, 1907, No. 41).—The preventive treatment of Credé is of value only in mild cases, according to Vincenz Fukala, of Vienna. He advises touching the conjunctiva palpebrarum, in cases of ophthalmoblennorrhoea neonatorum, twice daily with a 4 to 5 per cent. solution of nitras argenti, applied on a small cotton swab. In this way a cure is accomplished in a short time, without dangerous affections of the cornea. In acute cases of ophthalmoblennorrhoea in adults, this treatment is of value only when started in the early state, before abundant secretion is present. When fibrinous infiltration has set in, it is impossible to preserve the cornea. In adults a 5 to 10 per cent. solution of cocain is applied before the application of the nitrate of silver.

LOCAL TREATMENT WITH MARMOREK'S ANTITUBERCULOSIS SERUM.—Clement and Jacobson (*Journal des Practiciens*, 8 février, 1908), report a case of tuberculosis of the bladder, in a female patient, treated locally with Marmorek's serum. After eight months of the ordinary local and general treatment, the patient's complaint grew worse. She urinated 26 times in 24 hours, the urine containing pus and tubercle bacilli in abundance. Appetite bad, vomiting frequent, weakness. Twelve subcutaneous injections with Marmorek's serum had no effect on the bladder trouble. Finally, the authors injected every other day, after washing the bladder with boric acid solution, 5 cc. of the serum into the bladder, while 5 cc. of the serum were given per anum on the days between the injections. After 24 days the frequency of urination was diminished to 14 times in 24 hours, while the general condition of the patient improved greatly. The same treatment was continued for another 24 days, after which all her symptoms had disappeared. Tubercle bacilli were not found any more. One year afterwards the patient was again examined and no symptoms whatever of the tuberculous condition were found.

TREATMENT OF ACNE VULGARIS.—C. Herxheimer, Frankfurt a. M., publishes some very useful prescriptions for the treatment of acne vulgaris (*Deutsche med. Wochenschrift.*, 1907, No. 37). Our own experiences with these preparations have been very gratifying and for that reason we can recommend them highly. First, a lotion of the following combination:

Sulphur precip., 15.; aq. calcis, 45.; aqua amygdal. amar., 10. This lotion is applied at bed time to the affected parts by means of a camels-

hair brush. It is removed in the morning by washing with soap and hot water, while during the day a mild soothing ointment is used.

Second, a resorcin paste is applied and left on during the night; it is removed in the morning by first greasing the parts with cold cream and then wiping off with a moist wash rag. The prescription for this paste is as follows: Resorcin 10.; zinc oxydat 25.; talc. venet. 25.; paraffin liq. ad 100.

If a stronger action is required to accomplish peeling and a more rapid cure, the following paste is of value: Resorcin, zinc oxydat., talc. venet., aa 10.; paraffin liq. 20. This paste, after being applied, is removed after an hour, and some soothing ointment is kept on the parts during the following few hours.

TREATMENT OF PERITYPHLITIC ABSCESES BY MEANS OF PUNCTURE.—

Lenhartz (Aerztlicher Verein in Hamburg) reports 287 cases of acute appendicitis treated in "Das Eppendorfer Hospital" from January, 1905, to May, 1907. He advocates early appendectomy, advises the operation in the interval stage if possible, but is not in favor of opening every large perityphlitic abscess, on account of the dangers of this operation (loosening of fresh adhesions, peritonitis, abdominal hernia and long duration of the morbid process). To overcome these disadvantages, emptying the abscess by aspiration-puncture was tried by him. The results in the 287 cases mentioned above, were as follows: Early appendectomy, 34 cases, 3 deaths; incision of the abscess, 54 cases, 8 deaths; operation in interval stage, 61 cases, no death; abscess emptied by aspiration-puncture, 60 cases, no death. This report speaks for itself and the method should therefore be used next to other operations in suitable cases.

Lenhartz makes his puncture with a glass syringe of a capacity of 10 cc. and a needle 6 cm. long, sterilized dry. The skin is cleansed with ether, and the needle is introduced in the swelling, where the pain is most severe. The pus is then aspirated; the same operation repeated until the abscess is emptied. In some cases, up to 240 cc. of pus was drawn from the abscesses. If necessary, repeat the aspiration at intervals. In every case the temperature was noticed to drop and the number of leucocytes decreased. —

DIAGNOSIS OF APPENDICITIS.—W. Janowski and St. Lapinski examined 800 men with apparently healthy appendices, palpating the appendix, the cecum and the points of McBurney and Lenzmann (6 cm. to the left of the anterior superior spine). Necessary for a successful examination is a thorough relaxation of the abdominal muscles and contraction of the musculus ileopsoas, which was accomplished by elevating the right lower extremity one-half of a meter. In 52 per cent. of the cases the appendix could be felt over the musculus ileopsoas. In more than 60 per cent. of the cases pain was produced by pressing the appendix, radiating in different directions,—to the stomach, navel, liver, or to the left. McBurney's point was often found painful, also when pressure on the appendix was not painful and when the appendix could not be felt, and also from here irradiation of the pain was observed. Lenzmann's point was painful in several cases, and where the appendix itself and McBurney's point showed no pain on pressure. Swelling of the appendix, pain on pressure of the appendix, McBurney's or Lenzmann's points are, therefore, not evidence of chronic appendicitis and the diagnosis has to be based on other symptoms.

CORRESPONDENCE.

LONDON LETTER.

(FROM OUR OWN CORRESPONDENT.)

It is vacation time in London, and the juniors on the staffs of the various hospitals are occupying the seats of the mighty and enjoying a foretaste of the pleasures to come when they in turn mature to "full" rank. The relief from class-work in the School and from out-patient duty in the Hospital makes a pleasant change from the monotony inevitable to those spheres of duty. The centre of scientific interest has been removed to "dear, dirty Dublin," where the British Association for the Advancement of Science has been holding its annual session under the presidency of Professor Francis Darwin, F. R. S. It is certainly in accordance with the eternal fitness of things that in the fiftieth anniversary of the first and epoch-making announcement of the theory of natural selection by Charles Darwin, a son of that truly great man should occupy this high office. Francis Darwin studied medicine at St. George's Hospital, and is a graduate in medicine of his University. He has never practiced, but has devoted himself to botany, of which he is now Professor in Cambridge University. Heredity will out, and the Professor in his address showed that he had not only inherited the faculty of patient and meticulous observation so conspicuously possessed by his illustrious sire, but has also not a little of the poetic imagination, which was shown by his grandfather Erasmus Darwin, the author of the "Loves of the Plants." There has not been a botanical president of the Association since Sir Joseph Hooker was in the chair at Norwich forty years ago. Sir Joseph was also a medical man, and served for a time as Assistant-Surgeon in the Royal Navy. The theme of the presidential address was the movement of plants and Professor Francis Darwin gave a general idea of the influence exercised upon plants by changes in the environment. In effect, he showed that in Nature no line can be drawn dividing things which are considered to be alive because they show some sort of consciousness, from those which are supposed to have no feeling. He claimed that though it was impossible to know whether or not plants were conscious, yet it was consistent with the doctrine of continuity that in all living things there was something psychic. The address was full of suggestive thought, and bore witness to depth of knowledge, long and careful observation, and ripe consideration. He brought a healthy and refreshing breeze into the mists of polemics that have been gathering round the principle of natural selection. Polemics upon any subject, it may be remarked, usually betoken an absence of observation. It was, the Professor observed, the fashion to minimize or deny altogether the importance of natural selection, but he was convinced that the inherent strength of the doctrine would ensure its final victory over the present anti-Darwinian stream of criticism. Somatic inheritance lay at the root of all evolution, and the enemy hypothesis of evolution made the positive value of natural selection more obvious.

The President of the physiology section, Mr. J. S. Haldane, Reader in Physiology in the University of Oxford, opened the proceedings in his particular section by an address on the "relation of physiology to physics and chemistry." He contended in the main that the physico-chemical theory of life held in recent times by the majority of physiologists—viz.: that physiology is the application to living organisms of physical and chemical modes of explanation—is untenable as a scientific working hypothesis; that in physiology and biology generally phenomena are dealt with which, so far as our present knowledge goes, differ not only in complexity but also in kind from physical and chemical phenomena; and that the fundamental working hypothesis of physiology must differ correspondingly from those of physics and chemistry.

Dr. F. W. Hewitt, the well-known anaesthetist and equally well-known as an authority, second to none, on the subject, read a paper on the prevention of deaths under Anaesthesia. The subject is important at all times, but has become increasingly so in the last few years owing to the occurrence of several unfortunate incidents. Dr. Hewitt urged the adoption of the following reforms: (1) to make it a penal offence for any person other than a legally qualified medical practitioner to administer an anaesthetic; (2) to improve and extend the anaesthetic departments of our hospitals by appointing experienced officers of the highest academic and professional attainments to the various offices of such departments; (3) to make a thorough course of instruction in anaesthetics a necessary part of the medical education of every practitioner; and (4) to require hospital authorities to register every anaesthetic administration within their respective institutions. Something of this sort will have to be done, for the use of general anaesthetics daily becomes far more frequent than before. At the same time it is a matter of grave doubt by not a few, who can look back for a score of years although not in the spirit of the *laudator temporis acti*, whether the present system of medical education does not lose sight of the first and most important lesson to be learnt by all who intend to practice medicine, generally or in any particular branch, the full knowledge of, and the due readiness to accept, responsibility. Distance being now practically annihilated by the telephone, it is much easier to ring up and ask how to tide over any difficulty than, as in pre-telephone days, to thrash it out for one's self.

The Report of the Army Medical Department for 1907 is not only interesting in itself as showing a great improvement in the health of the troops, both at home and abroad—an improvement which also extends to their morals—but it also marks the continuous progress in the official recognition of the importance of the Medical Department of the Army. Much of the general improvement in health is attributed to the increased attention now given to sanitary matters, not only by the medical officers but also by the soldiers themselves. In this particular connection excellent results are forthcoming from the Army Sanitary Institute at Aldershot under the able superintendence of Col. R. H. Firth, F. R. C. S., with whom the idea of a special sanitary service, as a distinct branch of the Medical Department, originated.

PARIS LETTER.

(FROM OUR OWN CORRESPONDENT.)

Despite the confusion resulting from the diverse and often diametrically opposite opinions which have been expressed at the Surgical Society and the Academy of Medicine in their recent discussions, the question which arises is whether it is possible to form a definite opinion as to the value of antitetanic serotherapy.

One of the causes which seems to have contributed some obscurity to this question, the complexity of which is more apparent than real, lies in the fact that the observations of the researchers had to be adjudged from veterinary and surgical tribunals, so to speak, since both were appealed to at the same time. Now, the momentous point to remember is whether or not it is legitimate in all cases to draw conclusions from observations made in connection with animals so that they can be applied to man. Does not the latter show a special resistance to immunization caused by the introduction into his organism of a heterogeneous serum? Nevertheless, let us mention at once that it is no more justifiable to neglect the information derived from experiments on animals, when the study of the action of antitetanic serum is involved, than it would be in case the subject of antidiphtheritic serum was agitated.

As regards the experiments on animals, we are all in full accord that the antitetanic serum has no action whatever on developed tetanus and that this malady is without exception fatal. On the other hand, the preventive action of the serum is of decided value if its injection is given shortly after the manifestation of a wound, or better still, before the wound appears, as happens in the experimental cases.

To what extent these conclusions are applicable to man is the important question to decide. There have been reported many cases of recovery following large injections of the serum. Without denying the possibility of all this, it is well to recall that cases have been cured by very large doses of chloral and morphine. Hence we can not draw any conclusions from these exceptional cures. The intra-cerebral injections practiced by M. Borrel, of the Pasteur Institute, have not shown in man the happy results that were observed in animals. It appears then that in the case of man as well as in animals we can not proclaim with certainty the curative value of antitetanic serum. There remains the question of its preventive value. From the discussions which have taken place in the two learned societies of which we have spoken, we glean with considerable clearness that the action of the serum is decidedly limited, of short duration, and that it is necessary, in case the preventive benefits which it can bestow, are to be realized, the work must be done under favorable conditions; otherwise the many chances in its favor will not count for much.

The serum does not destroy the tetanic bacilli, does not prevent the germination of the spores and does not appear even to have any effect on the toxin already fixed in the nerve elements. Its rôle consists exclusively in neutralizing, by combining with itself, the toxin circulating in the blood. Therefore it is simply an antitoxic serum, similar to antidiphtheritic serum, and not an analagous bactericidal serum, such, for example, as antistreptococcic serum. Another fact most important to know is that the antitoxic rôle is very ephemeral and does not appear to extend beyond eight days. At the end of this time says M. Vaillard, if the tetanigenous wound exists still, if moreover there are local com-

plications which by microbic associations might facilitate the vegetation of tetanic bacilli, the secreted toxin will no longer find antitoxin for neutralization, nor will the usual good effects be produced. If, on the contrary, the amount of antitoxin is renewed at an opportune time, the preservation of life will be prolonged a certain length of time.

The conduct of a case should be influenced by two rules; first, by the immediate injection of a sufficient dose of the serum, ten or, better still, twenty or thirty cubic centimeters, a fresh injection of ten cubic centimeters every eighth day so long as the wound persists; and, secondly, where antisepsis, surgical intervention and the actual cautery are necessary, to destroy or locally suppress the morbid germs which might contaminate the wound. These two rules should be observed in all cases where the wounds are deep and infected, where there is considerable destruction of tissue and in complicated fractures. The local disinfection is at least as important as the injection of serum, since the bacillus of Nicolaïer can germinate in a wound even after days and weeks of incubation, leaving us ignorant of its presence until the moment when reactions in the nervous system signalize its impregnation by the toxin.

The employment of antitetanic serums, as that of all serums, may lead to untoward disturbances. Some are benign and of short duration, such as partial or general erythema, urticaria, arthralgias, myalgias and localized edemas. And the same disturbances may recur after reinjections. Again, it has been noticed that after injections of antitetanic serum, tetanic phenomena appear; these symptoms, however, are transient and without gravity and should not constitute a contra-indication against the use of the serum.

Even when all antiseptic precautions have been taken, and the injection has immediately followed the appearance of the wound and the doses have been sufficiently large, the malady may run its course until it ends fatally. And here it is well to recognize the fact that there are certain phenomena that are elusive enough to escape our attention, notably the one which has been observed *in vitro* by M. Roux. According to this researcher there takes place in the inoculated serum so decided a dissociation, that a certain quantity of active toxin is set free. Therefore associate infections and the influence of hyperthermia are to be regarded as matters of real importance.

To sum up, though we are yet incompletely armed in our fight against tetanus, the fact remains that the means are at hand to exercise prevention with considerable show of success, by asepsis of the wound and neutralizing the toxin by injections of the antitetanic serum, provided their quantity and number are correct.

THE SOCIAL PROBLEM.

TO THE EDITOR:

Your editorial on "The Omnipresent Sexual Question" does not take into account two causes for the unsatisfactory results of the mass of medical literature on the subject,—causes more prominent than lack of unanimity of opinion. The one cause is the restriction of publicity to the medical press, which never reaches the laity and which is mainly concerned with the medical aspect of the problem. The other cause is the lack of initiative and energy on the part of the profession in handling a sociological problem in which the medical phase is but one of the many phases presented.

The social evil is not a problem which can be worked out to a Q. E. D. solution; neither is it a disease which can be treated on general lines like a simple bronchitis. Every case has its individual etiology and requires individual treatment, the medical treatment of a venereal disease present being incidental though important for the restoration of the person affected.

Notwithstanding the diversity of opinions, ranging from those of the impractical idealist, who would convert the world into an elysium at the word of command, to the opinion of the nihilist, who would do nothing, some good has been, and much more could be done if practical and aggressive measures were instituted.

The medical profession is clannish, its position as adviser to the laity placing it on a supposedly more exalted plane than the rest of humanity. Its mentality is concentrated on its mission to heal the sick and prevent disease. In sociological as in municipal problems it takes a general, often only a passive, interest; indeed, there are but few who are not Laodicians in combating social evils and ills apart from their medical sides. Unfortunately the medical press has little if any influence outside of the medical profession. To achieve definite results in its efforts to improve moral and social conditions, it must arouse the public, either through the public press or through aroused physicians. The question involving the public welfare should receive public discussion, but the physician can, if he will, take the initiative in bringing about such discussion. The profession has succeeded in arousing the public to a realization of the dangerous practices which spread tuberculosis. It can do the same with the social evil. Here, however, it must make the medical phase concomitant with and not superior to the moral, social and economic questions involved. The spread of venereal diseases is the factor most directly appealing to the physician and the one upon which he lays most stress. The moral menace to virtue, the social menace to the sanctity of the home, the economic menace to the public purse, must all be considered, as well as the physical menace to the votaries of vice. Every lewd woman is a moral, social and economic menace to the whole community, while only those who are diseased affect their patrons and indirectly the families of the latter.

In an article on prostitution, published in the *New York Medical Journal*, August 8th, 1908, I said "the inherently vicious will remain in spite of all suppressive and repressive measures and there are enough of this class to supply the demand of those who require their services." All others are amenable to treatment. Those suffering from physical defects are subjects for the physician; those driven to their calling through economic conditions should be the charge of the philanthropist. When the fault is due to social conditions, the lawyer or minister can intervene; while the large class who fall or are liable to fall through ignorance of moral and physical laws, should be the concern of parents and teachers.

One of the fundamental causes for immorality is a moral turpitude or dullness produced by the continual use of alcohol from childhood. To show the demoralizing effects of alcohol taken this way lies within the province of the physician. It is hardly necessary to refer to the low moral tone pervading the wine and liquor drinking countries.

Another prominent cause in this country is the lack of domesticity. In our efforts to make our children self-reliant, we hold them under such a loose rein that they break away from the family circle as soon as they

become self-supporting. There is lacking that intimate relationship between mother and daughter that is seen in the German home, and owing to this lack of confidence between them the daughter gives her allegiance to a lover as soon as she is old enough to have one. Even here the family physician can exert some influence. To achieve results on a large scale, he must step down from his exalted position as physician and become for the nonce, a man of the world taking part in the community's welfare and the world's problem. Doing this in so worthy a cause will not lower his dignity nor impair the respect shown him as physician, but it will insure him a respectful hearing and enable him to take the initiative in a noble work.

I. L. NASCHET, M. D.,

73 E. 82nd Street, New York City.

OBITER DICTA FROM FOREIGN JOURNALS.

PRAGMATISM IN MEDICINE.

Since pragmatism is the habit of philosophical thought, to-day, in all its divers ramifications, its application to the practice of medicine should be of enough import to interest those medical practitioners of a scientific turn, who not only have at heart the welfare of their patients but are ever willing to be benefited by the currents of thought as they proclaim for illumination and modernity. Hence the following article by Dr. Louis Rénon, of the Faculty of Paris, in a recent number of the *Gazette Médicale de Paris*, should not be overlooked as a step towards the benefits which may be derived, in the province of therapeutics, from a fuller comprehension of "the science of practical sense and action." The science of therapeutics to-day is inundated with many theories, to the detriment of the sick. Symptomatic therapeutics has a rival in pathogenic therapeutics. But since the pathogenesis of the majority of patients is yet unknown to us, pathogenic therapeutics is merely a matter of medical theories, and the result is that we are docile witnesses to an ataxia of rationalistic therapeutics. Year after year, medicines which were considered excellent the year before, fall into disrepute. Year after year, there is a rehabilitation of these medicines. And year after year, in the name of reigning theories, we are promised the cure of such and such a plague. And remember the promise is not of yesterday.

The accumulation of all these deceptions has driven doctors into scepticism and inaction. Therapeutics is frayed and tattered, disdained and scorned. It has come to pass that its study is prosecuted only by those minds who persist in believing that the mission of the doctor is not one of indifference and callousness to the use of drugs, so that patients may resort to quacks who well know the practical worth of the following maxim by La Rochefoucauld: "Hope, the deceiver, at least makes good at the end of life by leading us along a pleasant route."

Is it possible then to react against these tendencies? It is, because if we consider what is occurring to-day outside medicine,—in the other sciences and in philosophy,—we are struck with the idea that hesitation is characteristic of certain savants and philosophers in their researches of what is thought to be the absolute truth. Already a reaction is forming against excesses in rationalism and intellectualism. Now it is a fact that the pursuit of absolute truth often gives rise only to deceptions for the exact rest, for the most, on hypotheses, and are capable of illuminating only relative truths. Ignorant of the true essence of the phenomena, their knowledge extends only to the relation of phenomena to each other. But even though the truths are relative, this does not prevent science from constantly progressing, a fact the importance of which in our practical life does not pass without appreciation. Now this scientific tendency is in accord with the philosophic evolution as it has been evidenced in the last fifteen years by distinguished Anglo-American thinkers, who have opposed to German and Latin rationalistic philosophy, a new philosophy, namely, pragmatism. According to

Charles Fiessinger's "Science and Spiritualism" (Science et spiritualisme, Paris, 1907) this new philosophy is spreading much more in the Anglo-Saxon world than with the Latins.

What is pragmatism? The word is derived from the Greek *πραγμα*, which means to cause action. It is the philosophy of facts, the philosophy of practical life, the philosophy of results, of experience and action. "To a pragmatic," says M. Gustave Le Bon, "there is neither truth nor error, only results. Utility and truth are synonymous."¹ Is it possible then, is it even desirable, to apply these ideas to medicine, to create a pragmatic medical doctrine? If we look up the word pragmatic, *πραγματικός*, we see that a pragmatic is one who studies facts in themselves, in their relation to action, efficacy and energy; therefore we can not but admit that for medicine to be comprehended, it is necessary that it should be pragmatic. Now medicine, as is well-known, is the science of acute observation and is often pragmatic without being aware. Medical pragmatism is not medical empiricism, even though we regard the latter in its true and literal sense *εμπειρία*, experience. It is another matter, or, better still, it is something more. For it is the experience of all results and of their origin, whether traditional or due to the most recent scientific researches. In other words, it is empiricism allied with science—scientific empiricism—and despite the apparent contradiction contained in the term we have here empiricism availing itself of all the means which science places at the disposal of medicine. Similar to the experimental medicine of Claude Bernard, pragmatic medicine is "by nature a sort of antisystematic and antidoctrinal medicine," since "it is free and independent in all its essential points, and has no desire to attach itself to any one system of medicine."² Or as Professor Dieulafoy has said: "A clinic derives its strength and sustenance from many sources."³ Therefore pragmatic medicine should follow these precepts and take unto itself all methods of examination. There should be neither neglect of auscultation, nor of the latest ideas as to immunity; further, a diagnosis if verified only by Wassermann's reaction has a specific value. Pragmatic medicine should be avid of all theories save those weak, sterile and disparaging ones of the rationalists—theories which lead to indifference and scepticism.

If pragmatism is to have any worth or value in medicine, it should apply itself above all to therapeutics,—the logical conclusion of the practical and active features of a clinic. Pragmatic therapeutics, no matter what its origin, utilizes all the medicaments which help the sick. It has no foolish or exaggerated pride but judges only from obtained results. It has recourse to the therapeutics of the past,—rest in bed and strict diet,—measures which date from the early ages of medicine; it borrows and puts into use such excellent medicaments as local blood letting and the cautery, so useful in cardiopathy. It does not disdain the marvelous drugs, colchicum for instance, remedy since many hundreds of years for gout; mercury, digitalis, etc. It assimilates divers pharmacopœias, English, Swiss and American, those storehouses of precious knowledge; and even draws upon the homeopathic book for knowledge of some excellent drugs. It draws sustenance from the chemical,

(1) Gustave Le Bon.—*Philosophie et religion. Leur évolution nouvelle: le pragmatisme* ("L'Opinion," 11 avril, 1908).

(2) Claude Bernard.—*Introduction à l'étude de la médecine expérimentale*, édition de 1903, p. 350.

(3) Dieulafoy.—*Manuel de Pathologie interne*, 15 édition, 1908, t. I., p. 45.

physical, natural and biologic sciences. It utilizes the synthetic progress of organic chemistry, the progress of physics, the advances made by physical chemistry, the x rays, radium, the colloids, medical ionization, indigenous and exotic plants, as well as all the discoveries of the Pasteurian school. It is versed in physiology and recognizes the treatment of the functional troubles of the glands by physiologic opotherapy. It is no stranger to kinetotherapy, physiotherapy, climatology, and to hydro-mineral cures. It is not unacquainted with the minutest causes which may produce rather disastrous results in the sick; and, convinced of the importance of these details, it always makes it a point to mention them. It emphasizes the importance of dietetics, the sort that rests on experience; and is opposed to a draconian regimen resulting from too close a consideration of digestive physiology and physical alimentation. It individualizes the treatment in each particular case, protects itself from all impossible systemization so that it may comprehend the diversity between heredity and acquired pathological changes stamped on each morbid case. Far from resembling the idea that it is criminal to speak of a province in medicine, it recognizes not only a natural but a pathological one. It is convinced of the enormous influence of the mind over the body, thus agreeing with those who hold that psychotherapy should be counted among our various remedies. It does not regard suffering mankind as a rabbit or a guinea-pig, not being matter of fact enough for this, since sentiment is one of its influential factors. It is the incarnation of hope, full of promises, never arriving before human suffering empty-handed, always buoying up with a positive answer and never depressing with a negative. In short, it is the Good Samaritan of whom Professor Albert Robin spoke so feelingly, at his opening lecture on clinical therapeutics, when he said, "the patient who feels himself in the presence of this new science realizes that the lambent flame, which means life to him, gradually grows until its strength and brilliancy buoy up his drooping spirits."

Pragmatic therapeutics is not a reactionary note in the researches for medical truth. Awaiting, as we are, the time, which is yet quite distant, when the scientific solution of all the medical problems will obtain, the new movement is a force in evolution, active, always in the vanguard of progress. It is ceaseless in pursuit of what is new, provided the matter is useful; accepting even theories put forward to bring about action, though later on they may be discarded. In a word, pragmatic therapeutics is the science of practical sense and of action.

A SIXTEENTH CENTURY PHYSICIAN'S IDEA OF PHILTERS.

In his Paris thesis, Dr. Dubédât has an interesting study of the Gascon physician of the sixteenth century, Joseph Du Chesne, signor of La Violette, known as Quercetanus, in which he shows to what extent the best informed people of that epoch really believed in the virtues of philtres and the magic of sorcery. Beverages disposing to love were in great vogue and even a goodly number of years later their popularity did not wane. To substantiate his statements, Dr. Dubédât cites a number of interesting facts taken from the numerous books of Du Chesne. Speaking of beverages, the Gascon writes: "Many women not content with their physical attractions as a means of drawing attention

to themselves, drink freely of amatory beverages to increase their attractiveness, thereby hoping to subjugate and enslave those who happen to be in their train. The Emperor Caius was so liberally dosed with an amatory drink by his wife that finally he broke down, physically and mentally. Cornelius Gallus, Governor of Egypt in the time of Augustus, on account of a similar beverage, became maniacal, according to Eusebius in his 'Chronicles.' This author also mentions that the poet Lucretius developed insanity after drinking a potion prepared by his wife, Lucille, and after some months committed suicide. It is said that the principal ingredient of all these beverages was hippomane. It has been reported to me that the potions that are given to create a feeling of love are so diabolical that to give them is unworthy of all Christians."



ALBERT HALLER.

HISTORICAL NOTES.

ALBRECHT VON HALLER.

Precocity counted for much in the life of Albrecht von Haller, the two hundredth anniversary of whose birth will be celebrated, with fitting ceremonies, by the University of Bern on October 16th. But precocity was not all, since this scintillant mental manifestation did not stop at maturity, as so often happens, but was merged into a service of knowledge whose shining energy deserves the high word of wisdom. History records that a Greek called Charmidas could repeat from memory the contents of the largest library; that Mlle. Clairon, the actress, when a child could repeat more than two hundred verses from the tragedy (*Le Comte d'Essex*) and two-thirds of the little play (*Les Follies Amoureuses*); that De Quincey was so proficient in Greek, in his thirteenth year, that one of his masters said of him, "that boy could harangue an Athenian mob better than you or I could address an English one." And thus it was with Albrecht von Haller. According to J. G. Zimmermann, his pupil and biographer: "In his ninth year, Albrecht compiled lexicons containing all the Hebrew and Greek words, their origin, definition and use, to be found in the Old and New Testaments. He also wrote two thousand biographies of celebrated men, after the manner of Bayle and Moreri. An unquenchable desire for arduous and laborious work was even at this time manifest. His ambition, his perseverance, his diligence and his remarkable patience, were ever on the increase so that all knowledge was possible to him."

But what we medical men of to-day praise in this outstanding figure in the history of medicine, is the genius which set itself to work on lines the echoes of which are even with us now. Albrecht von Haller saw the necessity for the continuance of research in anatomy and physiology; he was determined in their cause to evolve that which would prevent their being a mere guttering flame: a new aspect was given to physiology, and the doctrine of muscular irritability was evolved. As teacher and researcher he easily outclassed all contemporaries, as was shown during the 17 years of his occupancy of the chair of medicine, anatomy, botany, and surgery in the newly-founded University of Goettingen. There his work was enormous. Aside from his professional duties, he worked diligently at botany and physiology; composed poetry which, in these perilous modern times of higher criticism, stands the severest test; and conducted a scientific journal "to which he is said to have contributed 12,000 articles relating to almost every branch of human knowledge."

The industry of Albrecht von Haller must strike the modern mind as an instance so extraordinary that in the whole sweep of medical history his equal for work can not be found. That this is not true we have but to read of all those men of wide outlook and genius for work,—men, some of them coeval with Haller,—whose messages are written large across the pages of almost all modern medical books. To protest the inefficiency of subjects, thereby calling into play the talents of perseverance, endurance and industry may not be the sort of genius that blinds the onlooker; but its fruits are of so good a vintage, that out of them there passes to future generations, a knowledge that bites deep into science. And of the fibre of the makers of scientific studies was Albrecht von Haller.

BOOK REVIEWS.

A TEXT-BOOK OF DISEASES OF WOMEN. By J. Clarence Webster, M. D. (Edin.), F. R. C. P. E., F. R. S. E., Professor of Obstetrics and Gynecology in Rush Medical College, in affiliation with the University of Chicago. Large octavo of 412 pages, with 372 text-illustrations and 10 colored plates. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, \$7.00 net; half morocco, \$8.00 net.

Space does not permit us to enter here into a detailed consideration of this latest text-book of gynecology, or to critically review the author's position in the various questions at present under discussion among gynecologists. Webster is known as an investigator, as an inventor of new and original operations and as an excellent operator; thus he certainly is well equipped to produce a valuable and interesting text-book of gynecology. But this volume presents the subject in a distinctly attractive and most readable manner, an advantage which must be appreciated especially by the student and the general practitioner, and for the benefit of the latter we quote the following from the preface: "Owing to the marked surgical trend in gynecologic practice during the last twenty-five years a narrow specialism has been evolved which has resulted in the establishment of a school whose motto is Michelet's dogma—*Le bassin c'est la femme*—and whose remedial measures are limited to different forms of mechanical procedure—from passing a sound to extirpating the appendages."

"The accusation of the broad-minded physician that gynecologists tend to ignore many factors, other than those of pelvic origin, which are productive of neuropathies in women, is a well-merited one, and the majority of specialists must acknowledge its force. It must also be admitted that there is much truth in the counter-charge, brought by the specialist against the general physicians and neurologists, of a narrow sciolism which fails to estimate the significance of local pelvic phenomena, either from reckless disregard of them or from inability to make satisfactory physical examination of the pelvis."

STOEHR'S HISTOLOGY. Arranged upon an Embryologic Basis. By Dr. Frederic T. Lewis. From the Twelfth German Edition. Sixth American Edition.

With 450 illustrations. Philadelphia: P. Blakiston's Son & Co. Price \$3.00.

This volume represents the interesting experiment of arranging a text-book of histology upon an embryologic basis. The plan of teaching in American medical schools apparently makes such an arrangement highly desirable and thus, with the permission of Professor Stoehr, his well-known text-book in this sixth American edition has been completely rearranged to accord with this embryologic plan. The additions, omissions and changes of necessity are so numerous, that in a special note Stoehr asks his American colleagues to consult the original German work, if they find in the translation a view expressed which they do not consider correct.

A COMPEND OF OPERATIVE GYNECOLOGY. By William Seaman Bainbridge and Harold D. Meeker. Published by the Grafton Press, New York.

The object of this little book is to serve as an aid to the students taking the course in operative gynecology on the cadaver at the New York Post-Graduate Medical School and Hospital. It is based on the lectures delivered by Bainbridge. In very brief form the technic of all the typical gynecologic operations is described.

THE OPERATING ROOM AND THE PATIENT.—By Russell S. Fowler, M. D., Professor of Surgery, Brooklyn Post-Graduate Medical School, Brooklyn, New York. Second Edition, enlarged. Octavo volume of 284 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company. 1907. Cloth, \$2.00 net.

Well put for students, nurses and beginners, and a book that has many useful points of information.

ABDOMINAL HERNIA. Its Diagnosis and Treatment.—By W. B. DeGarmo, M. D. (New York). Published by J. B. Lippincott Company, Philadelphia and London.

This book must be meant for the general practitioner in large part, as it gives full and complete details, illustrated by the manufacturer's cuts, for fitting any and all trusses.

There is, however, a fairly satisfactory consideration of the operative treatment, and the author has been most thorough in his collection and presentation of the numerous articles on herina. In this we think he has done a good service, and as a compilation of the operations of various surgeons with their authors' illustrations it will be a good reference book.

ALTE UND NEUE GYNAEKOLOGIE. Festschrift fuer Geheimrath Professor Dr. Franz Ritter von Winckel. Herausgegeben von Professor G. Klein. Muenchen. J. F. Lehmann's Verlag. Price Mk. 12.

This interesting volume is dedicated by his former pupils to Professor Winckel, of Munich, on the occasion of his seventieth birthday. Indeed no better manner of honoring a venerable teacher could be conceived than a "Festschrift,"—a volume filled with the original contributions of men who in this way very appropriately express their gratitude to their master. The "Festschrift" is a typically German custom, but one that certainly deserves to be imitated by all nations.

The volume before us is edited by Professor Klein, who is known equally well as gynecologist and medical historiographer. Hence we are not surprised to find, as the first three essays, the following: Pictorial Representation of the Female Genitalia from the Ninth Century to Vesapius; A Spanish Treatise on Fertilization and Pregnancy, written in 1495; and Famous Obstetricians of the 16th and 17th Centuries. All three articles are by Klein, who also contributes papers on Retroflexic Uteri, on Scopolamine Anesthesia, and Spinal Anesthesia for Gynecologic Operations. Among the other numerous contributions to this excellent volume we may mention those on Blood Examinations in Gynecology, Hot Air and X Rays, Prognosis of Ovarian Tumors, Permanent Results of Operations for Prolapse, Difference in the Duration of Labor of European and Japanese Women, etc. The book work and illustrations are splendid.

HANDBUCH DER GYNAEKOLOGIE. Herausgegeben von Professor J. Veit in Halle. Zweite Auflage. Zweiter Band. Wiesbaden, J. F. Bergman. 1907. Price Mk. 15.

The second volume of Veit's well-known Handbook of Gynecology contains the following contributions: Gonorrheal Infection of the Female Genitals and Urinary Tract, by E. Bumm of Berlin, and Professor Doederlein's (of Tuebingen) two chapters on Inflammations of the Uterus and Atrophy of the Uterus. The other half of the volume, approximately 250 pages, is devoted to a discussion of the Diseases of the Female Urinary System; the name of the author, Professor Stoeckel, of Berlin, is ample guarantee of the excellence of this treatise, which in reality is a manual of urology.

Those familiar with the first edition of this work will readily recognize the fact that the changes made in this new edition are very thorough and decidedly to the advantage of this valuable work.

A STUDY OF THE HUMAN BLOOD VESSELS IN HEALTH AND DISEASE. By Arthur V. Meigs. Philadelphia and London: J. B. Lippincott Co.

The book of Meigs is a most important volume, particularly because of the very large number of observations made for it with the special object of establishing the value of many anatomic points hitherto neglected, not so much in regard to the arterial system as for the veins and capillaries. The chief object of the author is apparently to ascertain the changes that occur in vascular structures under normal or pathologic conditions. While similar studies have been presented by investigators in our own country and in Germany, they have been confined to a limited number of the blood vessels. Meigs has extended his investigations to cover the entire vascular system and his interpretations of the findings are accompanied by numerous beautiful illustrations. The volume is therefore a source of valuable information in the study of the physiologic and pathologic alterations that occur in the circulatory system. It is objective in its assertions and opinions for the reason that not only is the morphology of these structures considered, but also the changes in their functional and biologic relations. This latter feature makes the book very interesting reading, although the author in many instances disregards the results that exact physical investigations of the circulatory organs have brought out. The book must be read with a critical spirit.

INFLUENCE OF FOOD PRESERVATIVES AND ARTIFICIAL COLORS ON DIGESTION AND HEALTH. I. BORIC ACID AND BORAX. By H. W. Wiley, U. S. Department of Agriculture, Bureau of Chemistry. Government Printing Office.

The work of Wiley on the effects of the addition of borax and boracic acid as preservatives of food products, and their harmlessness or dangerous effects upon the consumer, has been done on the broad basis of exact chemical and experimental lines. The result has not been startling as the positive demonstration of harmfulness has been established for conditions that, under our mode of life, will rarely be fulfilled. There was no doubt in the beginning,

that the administration of large amounts of these substances would cause certain physiologic phenomena, and that continued ingestion, even of small quantities, would possibly lead to certain disturbances. This is what Wiley has proved. How far this can be utilized in legal and official ways is difficult to determine, and much less is it possible to prove these things practically. The bad effect of adulterated food is in most cases based on altogether different causes than that of the addition of some borax or boracic acid. The results of Wiley's work are not sufficiently definite to justify a change of conditions that at the present are not in the great majority of cases due to a fraudulent or deceptive cause, but are the outcome of economic conditions of a local or general character.

THE HARVEY LECTURES. Delivered under the Auspices of the Harvey Society of New York. 1905-1906. J. B. Lippincott Co. Philadelphia, 1906.

The purpose of the Harvey Society, founded in 1905, is to make accessible, for interested persons, all literature on the modern advances of medical science, through a course of lectures delivered by authoritative workers in the different subjects. These lectures are intended to be not so much accounts of work done by the lecturers, as a broad interpretation, from the laboratory standpoint, of subjects of general interest. They include a résumé of the experimental work and a critical review of the most recent advances. The historians are selected on account of their special adaptation, through their own research work on the subject presented by them. The present volume, representing the work done by the Harvey Society in 1905-1906, is a demonstration of the earnestness and directness with which this attempt is made. The success is great, as seen from the fourteen lectures published in the book, which comprise the most diverse problems of biologic and medical science. Each lecture is a jewel and as all are alike in value, a reference to any single one would give it undeserved prominence over the others. The aim of the Society is a high and noble one and it is to be hoped that besides those so fortunately situated that they can personally attend the lectures, many others may be benefited by publication of the lectures in book form.

NEUROGRAPHS. Editor, William Browning. Vol. I. No. 2. Published by Albert T. Huntington, Brooklyn, New York.

This volume of the Neurograph Series is called the Huntington number. It is concerned with a history of the disease which is known as Huntington chorea, a reprint of his original paper and numerous single contributions which deal with various phases of the subject, by well-known writers. Strümpel has a casuistical paper; Lannois and Paviot a résumé of the pathology; Osler a historical note; Jelliffe a note on the history of the disease; Tilney describes a family in which the disease can be traced back to colonial times; Dieffendorf touches upon the mental symptoms. There are other short papers dealing with Huntington himself as a physician and a man, and finally a note on the geographical distribution. This is a valuable monograph because it contains practically all that is known of Huntington's chorea, collected in such a way that it is readily accessible. It is well that the services rendered to medical science by Huntington should be adequately recognized; this the monograph does in a very clear, dignified and interesting way.

DISEASES OF THE NERVOUS SYSTEM. By H. Campbell Thomson. W. T. Keener & Co., Chicago. 1908.

The author of this book attempts to marshal the main facts of neurology in a concise and readable manner. In doing this he was fully aware of the difficulties involved; this he freely admits in his introduction. It is probably due to the full realization of the limits which of necessity apply in an attempt of this kind that has made possible so satisfactory a short treatise. In looking over the book one is struck chiefly by the care which the author has exercised in marshalling his facts and in arranging his material so that the succession of subjects falls naturally and logically. His description of disease types is clear and written in that precise, though readable, English which is found so frequently in books by Englishmen. There is of course little that is open for comment in so modest and restricted an attempt, but it ought to be said that for some reason or other this little treatise gives a distinct sense of satisfaction to the reader. The avoidance of discussion, the clean cut descriptions, the feeling of sincerity and the cleverness with which the illustrations have been selected and reproduced account for this. It is altogether the most satisfactory of the smaller text books on neurology. When the great number of these is considered, there is sufficient praise in this distinction. The make-up of the book is especially commendable.